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Utility Plant For Cooling Planned For Galveston

City Council Grants a 50-Year Franchise on Piped Water System

GALVESTON, Tex.—First air-conditioning system in the United States to be operated as a public utility will be installed in the downtown area of Galveston by P. E. Nicholls, Jr., who recently obtained a 50-year franchise from the city council for the project. Mr. Nicholls said that a corporation will be formed immediately to fulfill the purposes of the franchise.

Surveys and research have been in progress during the last two years to determine the cost and other details of the proposed air-conditioning system, Mr. Nicholls declared. Under the terms of the franchise, construction of the plant must be started not later than June, 1940.

Cold water will be created by a central steam generating plant operating a vacuum jet cooler. The cold water will be circulated through

(Concluded on Page 7, Column 1)

Store Coolers' Gain Is Big In Detroit

DETROIT—Air-conditioning sales reports to the Detroit Edison Co. during the first 11 months of 1939 show a marked increase over previous years in the number of self-contained installations according to Sterling S. Sanford, air-conditioning engineer for the company.

Sales of store-cooling units were almost double 1938, indicating a definite trend toward the use of this type of equipment. Ninety-seven sales in this classification were reported, having an aggregate tonnage

(Concluded on Page 7, Column 3)

Engineers Plan Unit For National Defense

NEW YORK CITY—Importance of refrigeration to national defense, and the contribution that may be made by refrigerating engineers through the organized reserves of the U. S. Army, was discussed at a recent meeting of the New York section of the American Society of Refrigerating Engineers. Prof. Carl Kayan of Columbia University, head of the New York section, was chairman.

This meeting, which was attended by more than 200 persons, marked the first organized effort on the part of engineering societies to make the services of the engineering profession available to the government, it is said.

At the conclusion of the meeting, the following resolution was passed: "Resolved that, it is the sense of this meeting that the Society make its services available to the organized reserves of the United States Army or other agencies of national defense, to make their refrigeration needs known to the industry, to provide them with information as to personnel and practices, and in other ways that may help provide prompt and adequate refrigeration services for the armed forces in the event of war."

Col. John S. Chambers of the Quartermaster Corps in the New York area is cooperating in the formation of the reserve unit of refrigeration men, and R. E. Townsend of Detroit Lubricator Co. is

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Heads Servel Sales



E. A. TERHUNE

Terhune Heads Servel Commercial Sales

EVANSVILLE, Ind.—Appointment of E. A. "Terry" Terhune as sales manager of the electric refrigeration and air-conditioning division of Servel, Inc., is announced by Harry Newcomb, general manager of the division.

Entering the industry as a salesman in the early days of low pressure commercial refrigerating equipment, Mr. Terhune became sales manager for the Servel distributor

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Stix-Baer-Fuller Breaks St. Louis No-Cooling Pact

ST. LOUIS—Stix-Baer-Fuller department store here has announced plans to install a \$500,000 air-conditioning system in time for the 1940 summer season. The specifications have already been drawn and accepted for the recirculative system, which will supply cooling in summer and heating in winter. Forced induction will be employed to serve every store department.

Prior to this time, the three largest department stores in St. Louis had an "unwritten" agreement under

(Concluded on Page 16, Column 3)

New Line Prices Generally Lower

Both Special & Regular Models of 3 Makes Appear Reduced

DETROIT—Suggested list prices on the three lines of 1940 model electric refrigerators introduced so far follow in the same general range as those of comparable sizes in these companies' 1939 lines—but prices of the "special" 6-cu. ft. promotional models have been cut approximately \$20 as compared with this year.

Crosley's MW-60 model is priced at \$124.50, while Stewart-Warner has its "special" priced approximately \$5 higher, \$129.95 being the suggested list. Norge has not yet announced its special.

So far, at least, refrigerator prices do not appear to have been affected greatly by the threatened raw materials shortage and consequent increase in costs because of the European War situation.

(Concluded on Page 2, column 5)

Philco Convention Has Two Locales

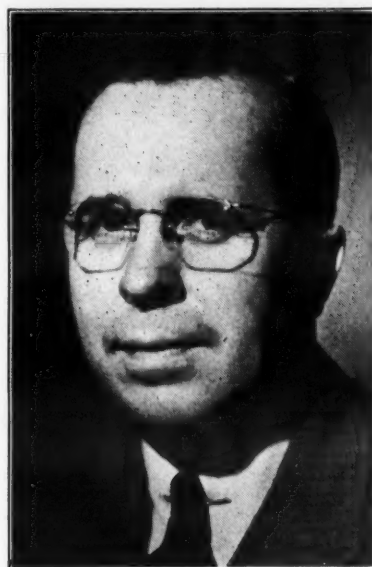
PHILADELPHIA—East and West won't meet to preview Philco's 1940 line of electric refrigerators and air-conditioning products, Vice President Sayre M. Ramsdell reports.

Distributors east of the Rockies will learn the details of Philco's "all-year-around" program in a four-day convention beginning Jan. 15 in the Palm Beach Biltmore, Palm Beach, Fla., while western distributors and dealers will get the facts for 1940 at a three-day meeting beginning Jan. 23 in the Hotel Del Coronado, Coronado Beach, Calif.

More than 700 distributors and guests are expected to attend the Palm Beach conclave, while an attendance of 1,500 distributors, dealers, and guests from west of the Rockies is anticipated for the gathering at Coronado Beach. Cliff S. Bettinger of San Francisco, Pacific

(Concluded on Page 2, column 5)

To Direct Copeland Major Store Sales



W. H. DENNISON

SIDNEY, Ohio—W. H. Dennison, formerly associated with Norge and Universal Cooler, has been appointed merchandising manager of the domestic division of Copeland Refrigeration Corp. by W. G. von Meyer, sales manager. The appointment was effective Dec. 1.

Mr. Dennison will handle sales of Copeland household refrigerators to

(Concluded on Page 2, Column 4)

ASRE Gives January Convention Details

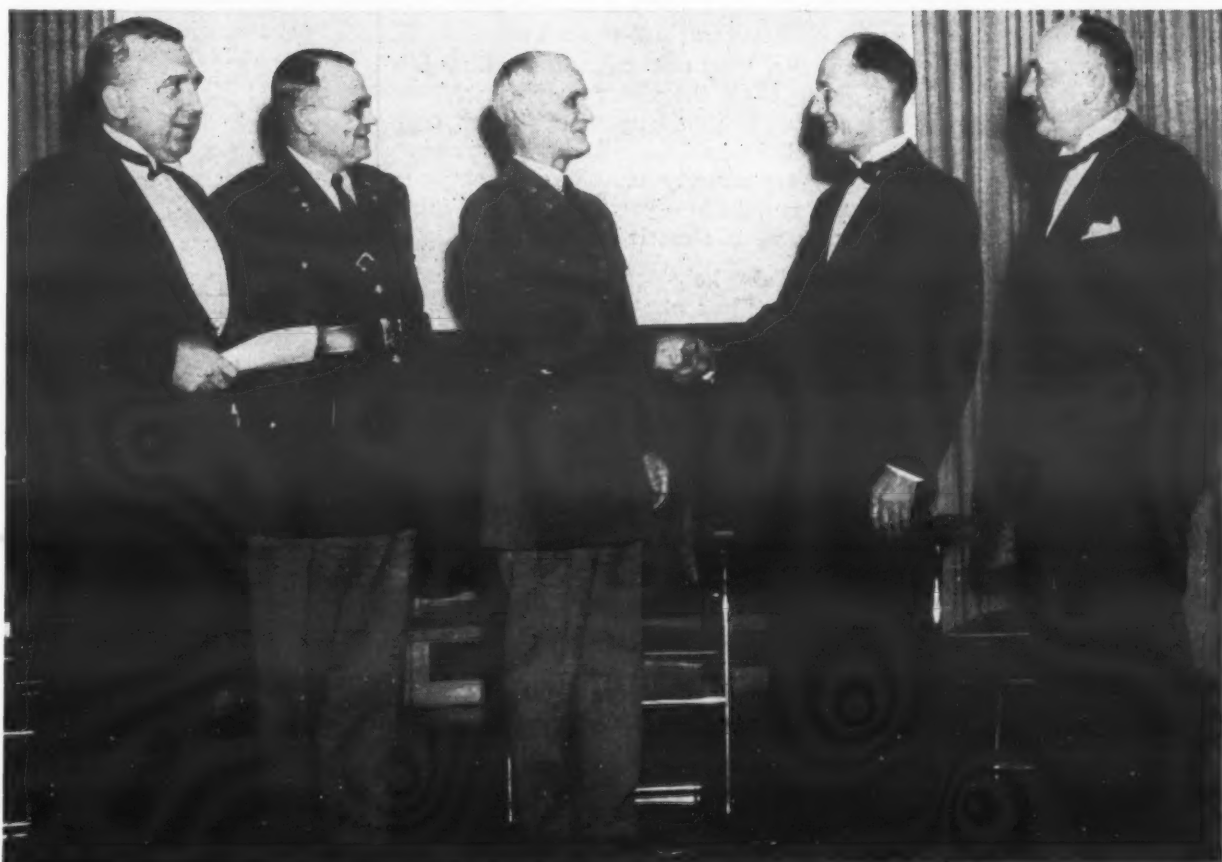
CHICAGO—Practical problems bearing on industrial refrigeration, small refrigerating systems, and the refrigeration of foods will occupy the center of interest in technical sessions of the thirty-fifth annual meeting of American Society of Refrigerating Engineers, to be held in the Blackstone Hotel Jan. 17-19.

All technical sessions, except for a joint session on the afternoon of Jan. 17 with members of R.S.E.S., will be held in the Blackstone.

Thirty-fifth anniversary of the society will be observed in special

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Visualize Refrigeration's Part In National Defense



At a recent special meeting of the New York section of the American Society of Refrigerating Engineers these men outlined the part that refrigeration will have in national defense. From left to right are Prof.

Carl Kayan of Columbia University, Col. Crosby Field, a reserve corps officer who is a past president of the A.S.R.E.; Maj. Orville Jackson, head of the organized reserves of the Quartermaster Corps; H. L. Consley,

who related experiences of Ice Plant Unit 301 in the last war; and Henry B. Matzen, who spoke on use of refrigeration and air conditioning in munitions making, and describing the uses of these facilities in England.

'Let's Measure Humidity' To Be Hotpoint's Story

Williams Believes Trade-Ins Will Amount To 25% Of 1940 Sales

BILOXI, Miss.—"Measured Humidity" will be the theme feature of the Hotpoint electric refrigerator line for 1940, F. B. Williams, manager of the company's refrigeration division, said in presenting new models to distributors at the recent "Partners' Meeting" in the Edgewater Gulf hotel here. Field showings of new models will start soon after the first of the year.

A chief demonstration aid for salesmen will be a door-type visualizer which fastens on the refrigerator door, enabling the salesman to tell the "measured humidity" story. Reverse side of the visualizer will show other Hotpoint construction features.

Estimating that the replacement market in 1940 would represent 25% of all refrigerators sold, Mr. Williams stressed the importance of proving the economy of owning a new model refrigerator.

Special window display service will be furnished dealers, consisting of three window trims—one for January and February, one for March and April, and one for May and June, Mr. Williams announced.

Another sales tool offered to distributor and dealer sales organizations by Hotpoint for 1940 is the "Eye Opener," a sales tool designed to help the salesman trade in old refrigerators or iceboxes without having to make excessive trade-in allowances.

R. W. Turnbull, Hotpoint vice president and general sales manager, sounded the keynote of the company's program for 1940, "Follow Through for '40," at the meeting's opening session. Other speakers at this session were George A. Hughes, Hotpoint president; Harry E. Warren, manager of the home laundry division; and M. H. Beekman, manager of the kitchen sanitation division, who presented the 1940 products, policies, and merchandising plans on these lines.

The 1940 line of Hotpoint electric ranges, and plans for their promotion and sale, were presented by Ward Schafer, range division manager.

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Ideal Beer Cooler Has New Plant

ST. LOUIS—Ideal Beer Cooler Co., manufacturer of Ideal "speed" beverage coolers, has just moved its factory to new and larger quarters at 2953 Easton Ave., St. Louis.

The new factory has a total of 22,000 square feet of floor area, devoted entirely to the manufacture of beverage coolers, the company manufacturing beverage coolers exclusively. The move to larger quarters was occasioned by continued increases in the company's business, declares Louis Weiss, president of the company.

St. Louis Dealer Now Can 'Set the Stage'

ST. LOUIS—H. S. Woodard Co., one of St. Louis' oldest Frigidaire dealerships with headquarters in the Frigidaire branch building at 3414 Lindell Blvd., has shifted its showroom arrangement to allow construction of a "demonstration salon" partitioned off with crimson satin drapes, which will permit seating of 150 persons before a small stage.

Danforth Men Promise More Speed



These Pittsburgh men who attended the recent Westinghouse merchandising division convention at Mansfield

made resolutions, in the above discussion, that Westinghouse is going to be "faster for '40." Left to right are R. T.

Terry and J. W. Dorris of Danforth Co. and J. F. Bacon and D. S. Pollock of Westinghouse Electric Supply Co.

2,228 WOMEN WERE ASKED:

"If you were buying a washing machine, a refrigerator, or an oil burner, what make of electric motor would you like to have on it?"*

31.2% replied,

"General Electric"

ALMOST one third of these appliance prospects prefer G-E motors, and so do a great many of your prospects. Why not make your selling job easier by giving them the motor they want? This preference, added to that for your appliance, cuts your selling job in half with these prospective buyers. They are already convinced that your products are dependable—you have only to show them the economy of electric appliances.

G-E motors can also help you sell prospects who have no preference but who are out to buy high-quality appliances. The millions of G-E motors now in use have given good service and G-E motors are generally accepted as being reliable.

They increase sales appeal because they are an added indication that the appliances you sell are dependable throughout. General Electric, Schenectady, N. Y.

WHY WOMEN PREFER G-E MOTORS—G-E motors are preferred because they are built to operate a long time with little or no attention. Note how they are built:

Cast-aluminum rotor—Its one-piece aluminum winding cannot become open-circuited or burn out. Rotor is inherently well-balanced and practically indestructible.

Protected stator—Windings are effectively insulated, are resistant to moisture, oil, and mild acids and alkalis. Metal surfaces are treated to resist rusting.

Long-lived bearings—Ample and sturdy. Equipped with a positive oil-circulating system that supplies clean oil to the bearing surface. Requires only occasional oiling.

*This question was one of several asked by interviewers in a recent door-to-door survey. The women indicated preferences as follows:

31.2% favored General Electric
7.4% favored Manufacturer "A"
6.8% favored Manufacturer "B"
28.6% favored miscellaneous other makes
26.0% didn't know

NEW YORK WORLD'S FAIR — SEE THE G-E "HOUSE OF MAGIC" AT BOTH FAIRS — SAN FRANCISCO EXPOSITION

GENERAL ELECTRIC

Hotpoint Distributors See Special Movies At Biloxi Meeting

(Concluded from Page 1, Column 5)

Feature of the range is a new and completely redesigned Calrod unit, said to have lower wattage yet faster heating properties than any previous Calrod design.

At least two major range activities will be staged next year, Mr. Schafer said. He showed part of a slide film for sales training entitled "Turn On the Heat," which is being made available by Hotpoint to tell a complete story of the new Calrod unit. Another new slide film is entitled "What's the Use."

Sales tools include a new "Sales Pointer" visual store demonstrator.

W. A. Grove, Hotpoint advertising and sales promotion manager, described the company's 1940 advertising and sales promotion plans.

Spearhead of the range and refrigerator program will be a sound motion picture, called "Love Takes a Detour." Produced in the Hal Roach Studios in Hollywood, with an all-Hollywood cast, it will be released for premiere showings early in February. With the picture will go a completely organized plan for dealer advertising and promotions, tied up with local theater showings.

Important part of the national advertising program next year will be a special campaign on water heaters and dishwashers.

Local media, such as newspapers and outdoor posters, also will be used on refrigerators, and for the first time the company will also have a nation-wide program of range newspaper advertising concentrated in favorable range markets. These advertisements will be built around the sound movie, "Love Takes a Detour," as an attention-getter.

For 1940 Hotpoint is providing a plentitude of sales training material to help salesmen employed by retailers and utilities selling Hotpoint home appliances. The 1940 sales training program was presented for the first time by Clinton Brown, Hotpoint's manager of campaigns and sales training.

The "Hotpoint Book of Knowledge"—a complete sales course on all Hotpoint home appliances, is the outstanding piece of this program. In describing it, Mr. Brown said:

"The ideas, the knowledge, and the selling methods which have gone into our 1940 training program have been taken directly from the experience of the most successful salesmen in the electrical appliance industry. We know that these methods are practical, and we know that they'll work, because they sold millions of dollars worth of appliances in 1939.

"These are the five buying decisions, which every buyer makes in the purchase of anything—the Need . . . the Hotpoint appliance to fit the need . . . the institution behind the appliance—which includes Hotpoint, the dealer and the salesman . . . the Cost of that appliance . . . and the time to buy that appliance, in other words—Now. When a salesman knows how to win these five buying decisions, he cannot fail to make sales—and this training program teaches him how to win them."

Dennison Is Copeland Merchandising Mgr.

(Concluded from Page 1, Column 4)

department and furniture stores, and will maintain his headquarters in Copeland's Chicago offices in the Merchandise Mart.

Mr. Dennison was formerly household refrigerator sales manager for Universal Cooler Corp., and has also been connected with Norge.

6-Ft. Specials In New Lines To Sell For Around \$130

(Concluded from Page 1, Column 3)

Crosley factory list prices start at \$104.50 for the 3-cu. ft. table model, and range upward to a high of \$259.50 for the two-temperature Freezorcold unit. Norge prices range between \$154.50 and \$269.50 on regular line models, and Stewart-Warner prices between \$129.95 for its 4-cu. ft. job and \$279.95, the latter being the price of the 8-cu. ft. Dual-Temp unit.

Six-foot models in Norge's Royal Monogram and Royal Viking series are priced at \$179.50 and \$154.50, respectively, while a special Royal Viking unit with porcelain exterior lists at \$174.50. Units of approximately the same capacity in Stewart-Warner's line—there are three—are priced at \$169.95 and \$139.95, with two models carrying the higher price.

Table of Prices

CROSLEY

(Factory suggested list prices)

Economy Line	
MA-30	\$104.50
MA-40	119.95
MW-60	124.50
Special Freezorcold Line	
MA-50	132.50
MA-60	142.50
Regular Freezorcold Line	
MB-45	149.95
MB-55	169.95
MB-70	189.95
Deluxe Freezorcold Line	
ML-45	169.95
ML-55	189.95
ML-70	219.95
ML-80	249.95
Two-Temperature Freezorcold	
MSL-75	259.50

NORGE

(Suggested retail prices, Detroit zone)

Royal Monogram Supreme Series	
SR-8	\$269.50
SR-6	229.50
SR-5	209.50
Royal Monogram Deluxe Series	
DR-8	239.50
DR-6	199.50
DR-5	179.50
Royal Monogram Series	
MR-6	179.50
MR-5	159.50
Royal Viking Series	
VR-6P	174.50
VR-6	154.50

STEWART-WARNER

(Suggested retail prices, Detroit zone)

D420	\$129.95
540	149.95
640	169.95
570	179.95
670	199.95
660	239.95
860	279.95
580*	159.95
680*	169.95
780*	179.95
620	139.95
SC650	129.95
*Five-year warranty \$5 additional. Not equipped with "sealed in steel" unit.	

"CHRISTMAS SPECIAL" MODELS*

(Detroit area retail prices)

Frigidaire	\$149.50
Hotpoint	159.95
Kelvinator	149.50

*All models in 6-cu. ft. capacity range.

Philco Conventions In California & Florida

(Concluded from Page 1, Column 3)

Coast division manager, is handling the western convention arrangements.

Philco's refrigerator for 1940, reported as being "completely new inside and out," and the new air-conditioning models will share the spotlight at both conventions.

Four special trains will transport western distributors and guests to the Coronado Beach convention, Mr. Bettinger says. Before reaching Coronado, the convention-goers will stop over in Hollywood for a tour of the MGM studios and luncheon on one of MGM's sound stages. Sam Kahn of Electrical Equipment Co., Phoenix, will head the Arizona contingent, while groups from California points will be headed by R. E. Harris, Phil Gough, and Lou Gruner, Philco distributors.

EASY FLARING

You get it with WOLVERINE COPPER REFRIGERATION TUBE

WOLVERINE TUBE CO.
DETROIT



Distributor-Dealer Doings

Court Action Tests Wisconsin Trading Stamp Law

MILWAUKEE — Merchants in Wisconsin are awaiting with interest the outcome of an action by Ed. Schuster & Co., Inc., operator of three Milwaukee department stores, and the Boston Store, another large-scale retailer, contesting constitutionality of the Young trading stamp law.

Circuit Judge Gustave G. Gehrz has taken the case under advisement, and ordered counsel to submit briefs and replies by Dec. 14. The law, which prohibits the giving of trading stamps with the sale of fair trade merchandise, became law April 27, and legal action has been in process since May 6.

The plaintiff stores sought and obtained a temporary injunction restraining District Attorney H. J. Steffes from enforcing the act. The court is also asked to issue a permanent injunction, and to declare the statute void on the ground that it violates state and federal constitutions.

In their action, the plaintiffs contend that the law denies them equal protection in that it prohibits them the right to give cash discounts and promote business through issuing trading stamps, while others are openly permitted to cut prices by other methods. They also charge that the law was enacted for the benefit of and at the insistence of competitors, and thus is unconstitutional class legislation.

Trading stamps have been issued by the Boston Store for more than 35 years, and by the Schuster Co. for more than 50 years, the plaintiffs aver. The complaints claim that the issuance of discounts for cash and for prompt payment of credit accounts tends to cut credit losses, decreases the amount of working capital required, and serves to attract and retain customers. On a large number of small purchases, the trading stamp system is the only feasible way to grant discounts, they claim.

Granting of trading stamps, it is claimed, encourages thrift on the part of customers; induces them to establish sound credit practices, and inspires them to budget expenditures in accord with their ability to pay.

Extension of credit, cash discounts, free parking and delivery service, cashing of checks, free style shows, gifts for children, etc. are some of the methods used in the city's highly competitive retail merchandise business to attract customers. None of these methods for encouraging patronage and goodwill, the plaintiffs aver, are limited to the sale of articles which are not subject to fixed retail prices.

It is also claimed that the expense of determining on which articles the stores would be allowed to offer trading stamps would be so burdensome as to prohibit issuance of them. District Attorney Steffe was named as defendant in both actions, but Judge Gehrz has since granted motions of the Wisconsin Pharmaceutical Association, Walter Raasch and Paul C. Janke, retail druggists; Milwaukee Retail Furniture Dealers' Association, Wisconsin Jewelers' Association, and Gimbel Bros. to be interpleaded as defendants. Some of these firms contend they have taken this action to assist in the retention of the state fair trade act itself.

In another suit now in progress, the 20th Century Market of Madison is charged with violating the unfair sales act to prevent loss leaders. This action has been taken under advisement by Superior Judge Ray H. Proctor. The market is charged with selling two nationally advertised items below cost as defined by the statute, which requires a 6% mark-up above wholesale cost on the retail price of all items.

In this action, Wisconsin Retail Food Dealers' Association, National Wholesale Tobacco Distributors' Association, and Marachowsky's, Madison food shop, have been granted permission to file briefs as friends of the court.

Zamoiski Co. Takes on Philco Conservador

BALTIMORE—Joseph M. Zamoiski Co., formerly distributor of Norge products in the Baltimore area and in Washington, D. C. through its affiliate, Columbia Wholesalers, Inc., has taken over distribution in both cities for the Philco Conservador refrigerator line. The organization for some years past has been Philco radio distributor in this territory.

The Zamoiski organization already has taken over Conservador distribution in the Baltimore area, while Columbia Wholesalers will assume distribution of the product in the capital territory around Jan. 1. Nelson & Co. formerly handled Philco refrigeration in Baltimore.

Graybar Names Litchfield Commercial Sales Mgr.

NEWARK, N. J.—Harold P. Litchfield, recently promoted from manager of the Newark branch of Graybar Electric Co. to general sales manager of the commercial division of the company, was guest of honor at a dinner held recently at Newark Athletic club. Speakers included Harry C. Coughlin, who succeeds Mr. Litchfield as Newark branch manager.

Ayres Co. Branch Store Features Used Appliances

INDIANAPOLIS—L. S. Ayres Co. has opened a branch store at 420 N. Capitol St. here, and will feature reconditioned used appliances. New merchandise will also be carried, handling the same lines as the company's other stores.

Shift From Canvass To Want-ads Ups Sales 30%

ST. LOUIS—South Side Radio & Electric Co., Frigidaire dealership, headed by Ralph Crancer, has moved to 3600 South Grand Ave., and built a new showroom for major appliances and furnishings.

The company recently cut out all outside canvassing and put the same costs into want-ad advertising, with the result that sales have shown a 30% increase over 1938, with only one complaint during the year.

N. J. Dealer Triples Display Room Space

ELIZABETH, N. J.—Crown Home Appliance Corp. has opened its remodeled showrooms here, increasing former display facilities three times. A housewares department has also been added. Herman Bodner is president and David Bodner secretary of the firm.

Entries and Expansion In Dealer Field

They Come In...

JENNINGS, La.—J. Bruce Barouse, operator for many years of Barouse Sales & Service, has entered the electrical appliance business under name of Barouse Appliance Co. The new firm opened headquarters at 322 Main St.

SHREVEPORT, La.—Roby Furniture Co., owned by J. W. Roby, head of the Motors Co., has been appointed a dealer for Kelvinator refrigerators.

...He Expands

NEW BRUNSWICK, N. J.—Andrew Eisler, electrical appliance dealer at 119 French St., has opened a branch store in the new Knauer building on Livingston Ave.

There's No Doubt About It Now...

The BIG PROFIT NEWS in REFRIGERATION for 1940 is PHILCO!

SINCE the first announcement of Philco's plans in refrigeration for 1940, it has become mighty plain that dealers from Coast to Coast know that a new major force has entered the industry. If you haven't yet heard the advance story, better contact your Philco distributor at once because important decisions are being made right now that will mean important profits to many a dealer in the years to come.

Activities in lining up dealer coverage are far ahead of schedule. The trade seems to recognize a ground-floor opportunity in the Philco Refrigerator contract. And there is no doubt that the 1940 Philco Refrigerator line will be a sensation. It will positively smash all tradition and present to the buying public a new idea of refrigerator service and value.

There is no doubt, also, that Philco will be set to sell that product with the finest appliance distributing and merchandising organization in the country. From one end of the nation to the other, they're lined up solidly now; the same strong, successful, hard-hitting distributors that have carried the Philco name to overwhelming leadership over the years. They have had a hint of what is to come in advertising, promoting and merchandising the Philco Refrigerator, and they're straining at the leash to go into action in the old-time dominating, smashing, Philco way that they know so well.

With all this advance excitement, Philco is being careful to keep in mind its original objectives. Of course, Philco intends to move ahead in refrigeration. But the purpose from the beginning was and is to give Philco distributors and Philco dealers a balanced, All-Year-'Round source of profits. Philco means to keep its refrigerator contract profitable for its dealers. Only as many dealers are being sought as are needed to accomplish the goal that has been set. And those dealers who have done an outstanding job for Philco through the years are entitled to first consideration in building the dealer organization for Philco Refrigerators. Philco welcomes them now into its All-Year-'Round family just as they will welcome the advantages of Philco public acceptance, Philco advertising and Philco merchandising in their refrigerator picture.

Philco is working day and night at headquarters to get ready for the distributor convention which will unveil the greatest line of refrigerators ever to greet the eyes of the trade. Shortly thereafter you'll see them at local meetings in your area. If you're making your 1940 refrigerator plans now, you should be giving some mighty serious thought to the glorious pageant of profits that will greet you at those meetings.

PHILCO RADIO & TELEVISION CORPORATION

Philco All Year 'Round for Profits All Year 'Round

HOME RADIO • AUTO RADIO • TELEVISION • PHONOGRAPHS • RADIO TUBES • PARTS • REFRIGERATORS • AIR CONDITIONERS • DRY BATTERIES

'Fixture Makers Must Police the Field To Save Best Dealers,'—Brothers

'EVEN A 50% IMPROVEMENT WOULD BE WELCOME'

The Canton Hardware Co.
Refrigeration Dept.—215 Market S.
Canton, Ohio

Dec. 11, 1939

Editor:

To the question brought up in the letter from C. E. Walker in your Dec. 6 issue anent "chiselers" we have a suggestion:

While we have only occasionally been bothered we have had enough experience trying to combat the service man turned distributor to feel pretty certain that not much can be done from a local standpoint to stop him. We all know, of course, that he will eventually stop himself, because even with a low overhead a man must make some profit to continue in business. But while he continues he may put one or two legitimate dealers out of business, and often when he stops there is another to take his place.

The solution lies with the fixture manufacturers. The manufacturers must first agree among themselves to lay down a program for their dealers with recommended minimum selling prices to the consumer, and they should make all possible effort to see that their dealers achieve these prices.

Household refrigerators have been handled on this basis with notable success. Of course there has been some chiseling, and probably there always will be, but it has been kept to a minimum.

The fault with this suggestion lies in the hunger of the various manufacturers for business. If a manufacturer has an outlet that is giving him good volume he will probably close his eyes to the fact that it is achieved through price cutting. Or, if a manufacturer has no outlet in a particular territory (and good outlets are not enough to go around) he will very probably appoint some financially irresponsible individual

who, to get "in," will cut his prices to the point where he is getting a bare commission.

If the manufacturer would stop to consider that it is exactly that type of individual that has been putting his best dealer in another territory on the ragged edge of bankruptcy he would think twice before appointing him.

Don't get me wrong. I don't believe in price-fixing. But I do believe that if the manufacturers set up certain recommended resale prices that were sufficiently low to be fair to the purchaser, yet sufficiently high to give the dealer and the manufacturer enough to cover his overhead and a legitimate profit, that the dealer, even those with chiselling tendencies, could be educated to get a fair price on his deals. It's a matter of education, and it must be done by the manufacturer.

I don't say the adoption of such a policy by all the leading manufacturers would immediately put an end to all our troubles, but even a 50% improvement would be welcome, wouldn't it?

J. W. BROTHERS

'Precipitron' Installed For Savannah Night Club

SAVANNAH, Ga.—Air-conditioning equipment recently installed in Remler's Night Club here includes a Westinghouse precipitron electrostatic air cleaner. Electric air cleaning will be used in two separate zones; one for the dining room and dance floor, and a second cleaning unit for the grill room and private dining rooms.

The zone systems are equipped with 40-hp. and 15-hp. compressors. A boiler, with gun-type oil burner, will supply heat during the winter months.

Forced Convection Units Find Use In Frozen Sleep Work

NEW YORK CITY—Forced convection cooling units, of the type commonly employed in commercial refrigeration, are being used in the "frozen sleep" treatment of cancer patients at Lenox Hill Hospital here.

The patient is put to sleep with a mild anesthetic, then packed in crushed ice. A fan is blown directly on him. This process is continued until the patient's temperature drops to 91° F.

He is then unpacked and placed in a dry bed. The patient is then left naked in a 58° F. temperature maintained by the forced convection cooling unit.

His temperature drops to 88° and he becomes, in effect, a "hibernating animal." This treatment is continued for 36 to 48 hours.

Commercial refrigeration units of this type take the place of more than 500 ft. of brine coils which would otherwise be necessary to maintain the correct temperature.

Ice Cream Freezers Sold From 'Pole To Pole'

SEATTLE — Selling ice cream freezers from "Pole to Pole" is the proud boast of Sweden Freezer Mfg. Co. here, as one of its freezers has recently been installed on the motor ship "North Star" sailed to the Antarctic with Admiral Byrd's latest expedition.

The freezer, purchased for use on the ship by the U. S. Department of the Interior, has a capacity of 5 gallons per hour to meet the requirements for serving ice cream to the party, officers, and crew. The freezer will be put to real use as the ship cruises through tropical waters on its way to the South Pole.

'Way up north in Nome, Alaska, there are two Sweden freezers in use.

Bastian-Blessing Piece Describes New Cabinets

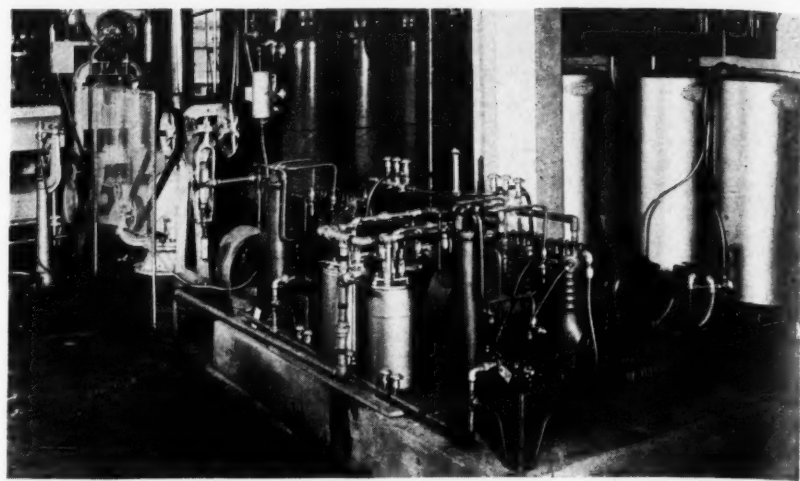
CHICAGO — Illustrated pamphlet issued by Bastian-Blessing Co. presents its new low temperature frosted food cabinets for fruits, vegetables, fish, meat, and poultry.

The three models in the new line, designed for wall, window, or island installations, and containing six, eight, and 12 compartments, respectively, are illustrated and described in detail.

Burson Opens In Jackson, Miss.

JACKSON, Miss.—M. J. Burson has entered the appliance sales field here and will handle Frigidaire and Philco products at 319 Pearl St.

On a Bottling Plant Floor



Refrigeration equipment installed on a special base right on the floor of the Decatur (Ill.) Bottling Works.

2 Machines In Bottling Plant Operate From Different Types of Controls

DECATUR, Ill.—Two 5-hp. Mills condensing units connected to two M-200-CR Temprite coils comprise the water cooling assembly installed by William H. Winings in the Decatur Bottling Works here.

The installation was hooked up in a manner permitting use of either one or both compressors, a feature resulting in considerable economy when use of only one unit is required. In order to avoid simultaneous starting of the two compressors when both are in use, one is controlled by pressure and the other by temperature.

Hand valves are employed for shutdown of either compressor in case repair becomes necessary.

It was originally desired to cool a minimum of 250 gallons per hour. At times, however, the plant uses as little as 160 to 200 gallons per

hour, and at times the inlet water is much lower than 75° F.

Mr. Winings reports that he has watched operation of the cooler when inlet water temperature was 72° F. and the plant was turning out 1,000 cases of 7-ounce bottles, or 1,312 gallons, every eight hours. Under these conditions, and with only one compressor in operation, water was taken continuously at 36° F. and bottled at 43° F.

Sometimes considerable carbonated water is bottled simultaneously with the beverages, and also the inlet water sometimes rises to 85° F. Under these conditions, of course, both compressors are pressed into service.

Normal load is about 75,000 B.t.u. per hour when the inlet water is at 85° F. Maximum load would perhaps reach 110,000 B.t.u. with 95° F. water.

Coin-Operated Device Group Meets In Chicago Same Week as All-Industry Exhibition

CHICAGO—One of the refrigeration industry's growing patrons, the coin-operated soft drink and ice cream dispenser, will be available for first-hand inspection by members of the refrigeration field during the Second Annual All-Industry Refrigeration & Air Conditioning Exhibition.

The annual exposition of the coin-machine industry will be held at the Hotel Sherman from Jan. 15 to 18, same days as the All-Industry Show, and through an exchange of registration courtesies between Coin Machine Industries, Inc. and Refrigeration Equipment Manufacturers Association, persons attending the Exhibition at the Stevens will be admitted to the show at the Sherman.

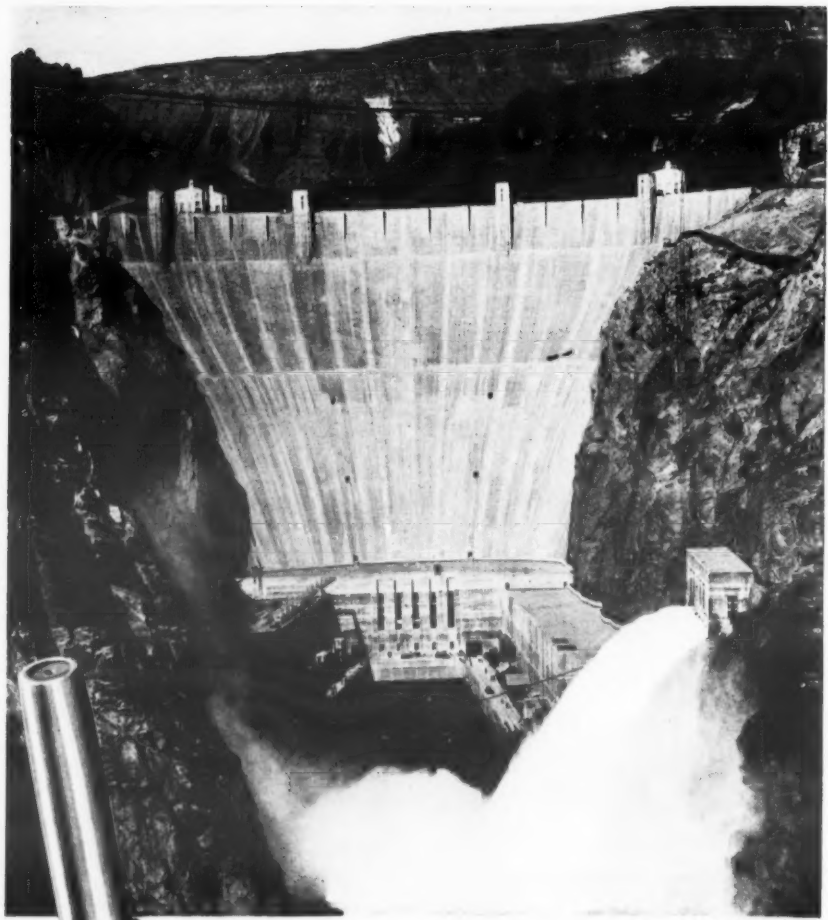
Coin-operated merchandisers have expanded during the last decade to become major factors in the retailing of cigarettes, candy, gum, peanuts,

and other five-and-ten-cent merchandise. About 30,000 coin-operated beverage dispensers are now in use, it is estimated, with somewhat fewer ice cream merchandisers.

Beverage and ice cream dispensers of this type have furnished thousands of new outlets, it is said—places such as filling stations, rest rooms, offices, factories, bowling alleys and pool parlors, small bus and railroad stations, and similar locations, in which it would be impractical to serve drinks or ice cream manually.

Operating automatically when a coin is dropped into the chute, these dispensers serve bottled beverages from either metal or glass containers which were filled with the mixed drinks at a central bottling plant, as well as beverages mixed in the machine itself.

ORIFICE CARTRIDGES MEAN CAPACITY CONTROL



Ewing Galloway

MILLIONS of TONS OF WATER would be WASTEFUL and DESTRUCTIVE UNLESS CONTROLLED.

IN your REFRIGERATION SYSTEM, a SUDDEN and UNCONTROLLED SURGE of LIQUID REFRIGERANT is JUST AS COSTLY. PEERLESS THERMOSTATIC EXPANSION VALVES, WITH THE PROPER ORIFICE CARTRIDGES, METER THE REFRIGERANT CORRECTLY to insure MAXIMUM EFFECTIVE COIL SURFACE. Less surface is wasted in picking up superheat. MORE efficient REFRIGERATION is accomplished with LESS RUNNING TIME and STARTING POWER. Ten interchangeable orifice cartridges permit matching the valve to the coil in your system.

STOCK IN ALL PRINCIPAL CITIES. SEE YOUR REFRIGERATION PARTS JOBBER. SEE OUR DISPLAY AT BOOTHS 123, 124, 125 SECOND ALL-INDUSTRY EXHIBITION, JANUARY 15-18, HOTEL STEVENS, CHICAGO

PEERLESS OF AMERICA, INC.

MIDWEST FACTORY, GENERAL OFFICES—515 W. 35TH STREET, CHICAGO
NEW YORK FACTORY, PACIFIC COAST FACTORY, SOUTHWEST FACTORY, EXPORT DIVISION
11-20 34TH STREET 3000 SOUTH MAIN ST. 2218 N. HARWOOD ST. P. O. BOX 1316
LONG ISLAND CITY LOS ANGELES, CALIF. DALLAS, TEXAS DETROIT, MICH.

Why Curtis is the Extra Profit Line

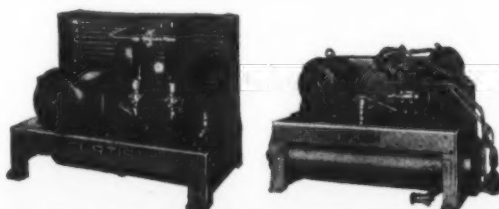
THE Curtis Refrigerated Store and Office Cooler materially increases your interest in the Curtis line of refrigeration and air conditioning equipment since it is another reason why you'll make more money handling Curtis products. It opens up a new market for the Curtis dealer—makes possible more sales and profits.

Here is a complete factory designed, packaged air conditioning unit—Mechanically cools, dehumidifies, circulates and filters the air—Adaptable for heating, too—Easily installed—Two sizes, 3 and 5 tons.

If your present line does not include packaged units as

well as a complete range of remote equipment, get in touch with Curtis at once.

Wire or write today.



45 Air Cooled Units—42 Water Cooled Units—1/6 to 30 h.p.



A typical installation of the Curtis Store and Office Cooler in a New Orleans office.

CURTIS REFRIGERATING MACHINE CO.

Division of Curtis Manufacturing Co.

1912 Kienlen Ave.

St. Louis, Mo.



"Builders of Condensing Units Since 1922"

'Try 'Em Out' Open House Builds Sales

MCDONALD, Pa.—Following up their theory, "See everybody and everybody will see you," the Weissberg Brothers now are cashing in on three straight years of night-time "get-acquainted" visits to the homes of McDonald residents . . . for they've made their dealership "appliance headquarters" in this town of 3,000 persons.

The three years of evening calls on townsfolk sowed the seed for future sales . . . and it was a consistent job, six evenings a week, says S. Weissberg, one of the partners. They wanted everybody in town to know them by sight—and to know, too, that Weissberg Brothers wanted their major appliance business.

Topping off this introductory campaign, the dealership held a three-day open house, to which all the town's residents were invited . . . with souvenirs, food, and fun for everybody. These are now an annual affair. Five hundred guests is not an extraordinary turnout.

Mixed with the good time, and an integral part of it, are appliance demonstrations which prove real sales-pullers. Refrigerators, ranges, and other appliances are shown in operation—and guests are urged to try them out, handle utensils, inspect ice cube trays, and watch food prepared. Plan is to turn guests into customers—to make them want what they're seeing.

There are souvenirs for all at each open-house, and extra fun is provided by a "grab-bag" filled with small, but essential, things, such as razor blades and shoe strings. Local grocers and market operators sometimes share part of the food cost, and are cut-in on the credit and goodwill.

\$1 Offer Mailing Piece Gets Action From Farms

ATTICA, Ind.—R. A. DeSutter, General Electric dealer in this area recently opened up by Rural Electrification Administration, "went to town" on laundry equipment business during the recent National Washer and Ironer Week. Using a combination of simple promotional helps and old-fashioned energy, Mr. DeSutter pushed his sales for the week 700% above his assigned quota.

He began by mailing a simple letter to 1,300 REA users in his area, announcing Washer and Ironer Week, touching upon the G-E "Stay Young Electrically" national advertising program, and offering a washer special during the week in exchange for an old washer, on terms of \$1 down and \$1 a week, with no carrying charges.

With the letter, Mr. DeSutter enclosed a full-line appliance folder and a chart showing the cost of electricity consumption for washers, ironers, refrigerators, and other appliances. In addition, he set up a window display using nothing more than cards, stickers, and washers.

The 700%-above-quota sales mark was the result.

Dealer Reasons: 'People Buy Everything Else In Supermarkets, So Why Not Appliances?'

BUENA PARK, Calif.—Bill Cannon has put the law of averages and the power of suggestion to work for him.

Mr. Cannon operates "Cannon's Foodland," a super market located in this little farming community about 25 miles southeast of Los Angeles. Some 500 or 600 persons a day—as many as 1,000 on Saturdays—patronize this market.

Mr. Cannon decided some time ago that if this many people were exposed to any line of merchandise some of them were bound to buy—especially if, as in the case of repeat customers, they were exposed to this merchandise time and time again.

Six months ago he set out to prove his theory by installing a line of electric refrigerators, washers, irons, and similar appliances in his store, and by placing a display of this equipment in one of his big plate-glass show windows where it would be seen not only by the store's customers but also by passersby.

Two Dept. Sales Heads, Four Regional Managers Appointed By Norge

DETROIT—Appointment of two new department sales managers and four new regional managers for Norge has been announced by M. G. O'Harra, vice president in charge of sales.

E. R. Bridge, former regional manager, has been named sales manager for the washer, ironer, and space heater department. Paul Puffer, former regional manager, becomes sales manager for the refrigeration department.

The two vacated regional managerships will be filled by Harry Lewis, formerly with Westinghouse Electric & Mfg. Co., and William H. Hanna, who comes to Norge from Modern Kitchen Bureau. Other new regional managers are R. H. (Rube) Pizor and Ray C. Roy, who formerly were special representatives on all Norge products.

Mr. Lewis began his home appliance experience with Frigidaire in Milwaukee in 1926, and in 1931 joined the Westinghouse Supply Co. in the same city. In 1936 he went with Westinghouse Electric & Mfg. Co. as range, water heater, and dishwasher supervisor, traveling Wisconsin, upper Michigan, and Iowa, with headquarters in Mansfield, Ohio. In 1937, he became full-line supervisor, out of Detroit, for Michigan and northern Ohio.

For Norge, Mr. Lewis will have headquarters in Kansas City, and travel Kansas, Colorado, Nebraska, and Iowa.

Mr. Hanna, who will establish his headquarters in Detroit, will cover Michigan, Ohio, Pennsylvania, West Virginia, and part of Virginia.

For the past two years he has covered the United States for Modern Kitchen Bureau, and for the two years previous to that he was advertising and sales promotion manager for the Kelvinator range and water heater division.

Mr. Pizor for the past six years has been a special representative on all Norge products, covering the entire country. As regional manager, he will work out of St. Louis headquarters, covering Kentucky, Tennessee, Mississippi, and part of Illinois.

Mr. Roy, also a former special representative on all products and previous to that time a Norge washer specialist, will headquarter in Chicago and cover the states of Wisconsin, Indiana, Minnesota, North and South Dakota, and northern Illinois.

Beal Gets Sales Post At Porcelain Enamel Co.

CHICAGO—Donald S. Beal, formerly service engineer for Porcelain Enamel & Mfg. Co. here, has been promoted to the position of sales representative in the Chicago territory.

Mr. Beal has been connected with the ceramics industry since 1929, having been for five years in charge of process control at Westinghouse's Mansfield, Ohio plant.

Apex Oct. Washer Sales Hit All-Time High

CLEVELAND—More Apex washing machines were sold in October this year than during any other October in the company's history, sales exceeding by 47% the previous October record, which was established in 1934.

This banner month followed hard on the heels of the new all-time high monthly sales record set in September. Best previous month was June, 1937.

According to Apex figures, sales of the 1940 Apex washers showed an increase of 52.4% over the same period last year, compared with a gain of 27.5% registered by the industry as a whole.

Crosley's Convention Orders 120% of Quota

CINCINNATI—Orders for refrigerators and other appliances booked at Crosley's distributor convention here last fortnight exceeded 120% of the factory quota set in advance of the meeting, reports Thomas W. Berger, general sales manager.

Lovier's Again Expands

OAKLAND, Calif.—For the third time in eight years, Lovier's Home Appliances has been forced to acquire additional floor space. Partners L. J. Lovier and Horace W. Estep explain the store's growth in two words—promotion and display.

Step Up To New Jobs



PAUL PUFFER

HARRY LEWIS



W. H. HANNA

E. R. BRIDGE

the new Delco motor for oil burners wins owners' OK on two important counts



It can be seen

. . . the handsome, streamlined appearance of the new Delco motor for oil burners is an important point to owners who use their basements for recreation rooms, children's nurseries, etc. Far from being an eyesore, this modern motor harmonizes with the design of the heating unit . . . helps make the basement a pleasant, livable part of the house.

It can't be heard

. . . because quiet operation was the primary goal of the Delco engineers who designed this motor to meet the particular requirements of modern oil burners! There's no noise to be carried through the house by heating ducts . . . no noise to distract the gathering in the basement recreation room.

THESE FACTORS ASSURE QUIET OPERATION . . . and long life

1 Precision Manufacturing: Diamond-bored, oversize bearings lubricated from oversize oil reservoirs. Indestructible-type copper-bar rotor, dynamically balanced for quiet, vibrationless operation.

2 Advanced Features of Design: Cork end-play take-up device eliminates end-play noise. Delco centrifugal switch assures positive snap-action starting—no fluttering. Accurate Delco Manual

Reset Thermotron, approved for oil burner application, provides overload protection.

In addition, the Delco motor for oil burners is splash-proof, dust-proof and condensation-proof . . . rugged in construction to assure long service.

For every appliance—refrigerator, washer, ironer, stoker, oil burner and air conditioner—there is a Delco motor "designed for the particular job."



PERSONALITIES

By George F. Taubeneck

Here's Your Chance To Advance Science

Along about this time business men receive a lot of appeals for Christmas charities, of one sort or another. Christmas being what it is, those who sponsor such charities know it is the best possible time to ask for donations.

Well, here is an appeal which just happens to come along at this time, and has no direct relation. It's an idea for one, or maybe two readers of this column—an idea which, if acted upon, would enable whoever accepts it to help make a lasting contribution to medical science.

Over in Chicago a young surgeon has hit upon something—an injection which seems to work marvels in the coagulation of blood. This treatment appears so promising that he has practically given up his private practice to devote his full time to experimenting with it. And the staff of Chicago's Presbyterian hospital has given him the use of a laboratory for his work.

Already the treatment has proved effective in the healing of yellow jaundice. And now it seems to be the answer to toxemias attendant to childbirth. If his early successes in such treatment and experimentation are repeated sufficiently to establish the fact of efficacy, the treatment may result in the saving of the lives of thousands of mothers annually.

What he needs now is a blood-bank refrigerator. He doesn't care how it looks, or what it is made of, just so it will hold temperatures of 40° below zero F. It can be top opening, and of approximately 4-cu. ft. capacity.

Would some manufacturer or engineer in the industry be interested in making such a cabinet in his shop? And would the same, or another, manufacturer have a spare refrigerating unit to donate?

Attendant publicity should be excellent. It seems entirely likely that these experiments will make this young surgeon—and his equipment—internationally famous (and probably within a year). And the News will certainly print photographs as soon as the installation is made.

Anyone interested can communicate with the NEWS, or directly with Dr. John Hurst Olwin at Presbyterian Hospital, Chicago.

Dizzy Spell

November and December comprise the household electric refrigeration industry's dizzy spell. It's the time of distributor conventions; and if there's anything in the whole sphere of business that comes nearer than a distributor convention to being a cross between a hurricane, a battle royal, "Gone With the Wind," the Encyclopedia Britannica, and New Year's Eve, we've never heard of it.

Factory men, of course, try to cram information and activities which have taken months of preparation into a few days of intensive going-to-school for the distributors. The distributors, on their part, want to enjoy the class-reunion aspects of the meeting, and each believes it an opportunity to iron out that little matter with the Big Chief.

Conventions are like a madhouse—but I love 'em.

Off the Cuff

There isn't a tenth the space available to tell about some of these conventions, but here are a few notes from the cuff:

Charley D'Olive and his handsome new wife (see picture) were the toast of the Stewart-Warner convention. The distributors—a blue ribbon assortment if I ever saw one—voted unanimously that Mrs. D'Olive is a "peach."

Powel Crosley, Jr., who has been having a bit of bad luck recently with injuries, illness, and such, was forced to miss his first convention since he founded the company 18 years ago. But friends arranged a consolation: He has been appointed a Colonel by Governor John E. Miles of New Mexico, and will serve as aide-de-camp on the governor's staff.

Frank Kohnstamm, appearing as Head Man before his first Westinghouse distributor's convention, made a swell impression—particularly as an impromptu master of ceremonies at the handing out of contest prizes. He seems to be a "regular," a real fellow. Witty, too.

Gil Baird's sales promotion movies were adjudged the best he has yet turned out, and a record number of distributors bought new projectors to show them. Along with Art Scaife of General Electric, Mr. Baird has been pioneering this form of selling in the refrigeration industry. It has long been in successful use by the automobile manufacturers and food processors.

Hair Today, Gone Tomorrow

Incidentally, Mr. Baird is beginning to look like a pioneer. This department can remember when both he and Bob Richards, the employee-relations man who put on such a

How's It Going?



Phil Danley, head of the Westinghouse air-conditioning department, drops in for a casual visit with old friends at Mansfield. Mr. Danley is now located at Springfield, Mass.

big-league musical comedy using only Westinghouse employees, looked like boy executives. Now they both have hair which has turned to silver. (No doubt they'll retort that they can remember when this department still had his hair.)

V. E. "Sam" Vining, who would come close to winning a Gallup poll to nominate the Industry's No. 1 Personality, has bought a farm. We don't know just what all he'll do out there, but whatever it is, we'll bet those hogs and chickens and trees and stands of corn will know that they've had an Experience.

What's more we'll bet "Sam" will draw enough conclusions from what he sees out there to write a whole new book of his famous "Selling Slants."

St. Louis Notes

Friday the eighth the writer was in St. Louis to address the A.S.R.E. chapter down there on "Needs of the Export Market." Found that export business is indeed thriving among St. Louis manufacturers—such as Marlo Coil, Alco Valve, Curtis, Century, and Wagner.

The Marlo plant is running at capacity—a rare thing for this time of year—and practically all on export orders. Ideal beer coolers are coming off the production line at a great rate, too.

Art Schellenberg, Alco Valve's youthful president, has purchased a new home which has the most unusual interior arrangement this department has ever seen. It's perfectly lovely. However, we trust Art will always come home sober—if he doesn't, he'll get lost in there, and it may take weeks to find him again.

Johnny Walker, Frigidaire's keen branch manager at St. Louis, used to be one of the most effective platform men Frigidaire ever sent out on dealer convention tours. This year, however, Johnny can welcome the boys when they arrive in St. Louis, help them put on their act, see them to the train, and then relax. That, my friends, will be a pleasure.

'Denny' Retires

At the Norge convention, biggest news, from "Personalities" standpoint, was that R. E. Densmore, affectionately known throughout the refrigeration industry as "Denny," has resigned his position with Norge and announced his intention of giving up the type of work he has been following for the past quarter century.

"Denny," who is probably the oldest sales executive in the industry in point of continuous service—and most certainly one of the best known and best liked men in the business, is truly an Industry Pioneer.

His first experience with mechanical refrigeration dates back to the days in 1914 when Arnold H. Goss, founder of Kelvinator, was launching the forerunner of that corporation.

Mr. Goss, W. D. Mercer, and Mr. Densmore were the active executives in the starting days of Kelvinator and, through the following years, "Denny" served that organization in almost every executive capacity.

His association with Mr. Goss and Kelvinator (or its predecessor company, Electric Refrigeration Corp.) continued until May, 1929, when he resigned to join Norge, then a protege of Detroit Gear & Machine Co.

Soon after his association with Messrs. Blood, Donaven, and Knapp, the controlling faction in the Gear

Here They Are, Boys



Refrigeration's best-known and most popular bride-and-groom, Mr. and Mrs. Charles O'Olive, pose for their first picture—taken by the editor, who apologizes publicly for having failed to record one tenth of Mrs. D'Olive's beauty. Her husband, in case you hadn't heard, is manager of Stewart-Warner's appliance department.

company and Norge, this operation was taken over in its entirety by the Borg-Warner Corp. Extensive surveys of the industry as it then stood were made under the experienced guidance of Mr. Densmore and these, plus the reported performance of original Norge Rollator units in actual service, influenced the decision to nationalize Norge. Thus in 1930 began the program which has carried this late-comer in the field from twenty-sixth place to one of the first half-dozen leading positions in the industry.

Throughout his 10 years with Norge, Mr. Densmore made use of no specific title—he was always just "Denny" doing his work, wherever and whatever it might be, in his own way and endearing himself by virtue of his sound sense and spirit of fairness to distributors, wholesalers, dealers, and retail salesmen.

Aid To Knapp

"Denny" it was who took an inconspicuous seat alongside the late Johnny Knapp, who had stepped up from purchasing agent of Detroit Gear to the very important position of sales director for Norge—a position which earned for him high recognition. It was "Denny" who

helped Johnny—particularly west of Mississippi—in the lightning campaign to line up distributors.

But after 25 years of this kind of service, "Denny" seems to have arrived at the notion that much of the romance and the thrill of being a pioneer is over, and that he might just as well sit by on the side lines and cheer the boys on from a comfortable chair.

A few years ago Mr. Densmore purchased what he calls his "farm" on the St. Johns River at Jacksonville, Fla., and there he has now gone to rest up a bit, become better acquainted with his family and friends.

His orange crop this year is fine and the fishing is good and the sunshine warm and revitalizing—why should "Denny" worry about anything?

This department, however, joins Norge distributors in hoping he won't like Florida so well that he'll never come back. I, for one, always will be grateful to "Denny" for the kind and helpful manner with which he treated me 10 years ago when, as a cub reporter anxious for a big "scoop," I was pestering him and his associates. You never forget a man who treats you as understandingly as "Denny" does.

Busy Nema Executive



Refrigeration executives are becoming more and more aware of the fact that the industry is particularly fortunate in having Bruce Fleming (above) as the director of the Nema Refrigeration Division. His unobtrusive efficiency and tactful urbanity are winning him the respect of the entire industry.

You'd Be Surprised At What-All Goes on In a Big Factory-Headquarters



The News candid cameraman a-wandering went during the recent Westinghouse convention at Mansfield, and discovered the following activities; (1 and 2) A full-fledged photographic department makes "stills" of some tempting food put up by (3) a home economist in one of the numerous model kitchens. (4) During a momentary lull, a "drag" tastes mighty sweet. (5) This gentleman spends his entire time collecting (as in the above picture) cleaning, and replacing spittoons in the thousand-and-one offices in the mammoth plant.

Air Conditioning

Galveston To Have First 'Utility' Cooling System

(Concluded from Page 1, Column 1)

underground mains to conditioning units in various buildings and then return to the plant for re-cooling. Water will leave the plant at a temperature of 38° F. under 60 lbs. pressure and return to the central station at a temperature of 60° F. under a pressure of about 10 lbs. The operating pressures are estimates.

Insulated pipe, designed for the system, will be used both underground and above the surface.

Individual units used by the consumer will be equipped with cold water coils, blowers, filters, and thermostatic temperature controls.

The service will be metered, the customer paying only for the amount of cold water used by the air-conditioning system. A regular scale of rates will be set up.

"Production of cold water on a large scale at the central plant will make for efficiency," Mr. Nicholls states. "This company will supply refrigeration in a direct form rather than in the form of energy."

"Our problem will be to get the right amounts of cold water at the right temperatures in the right places at the right time. We feel that our plan will be far more satisfactory to the consumer when all factors are considered—in the matter of expense, maintenance, service, and availability of refrigeration."

Mr. Nicholls estimates that the initial installation expense of his proposed system is at least 50% less than by other methods used in air conditioning.

Streamlined Trains Are Equipped With Cooling

JACKSONVILLE, Fla.—Complete air conditioning and sound proofing for every car are among the features incorporated in the "Henry M. Flagler," one of the two new streamlined trains built for the Florida East Coast Railroad.

New Factory For Viking

CLEVELAND—Viking Air Conditioning Corp. has moved to larger quarters at 9500 Richmond Rd. here. Recent operations on a 24-hour per day basis necessitated increased space and new production machinery, company officials said.

Small Town Record?

MELBOURNE, Fla.—One of the first newspaper offices in the state of Florida to be air conditioned is that of the Melbourne Times. Three other business places in this little town of 2,500 population also have installed air-conditioning equipment. They are the Bank of Melbourne, the Van Croix theater, and Dr. Hay's medical clinic.

Cool-Wave Chief



HARRY BOYD BROWN
National merchandising manager of Philco, has been placed in charge of the company's air-conditioning activities.

Efficiency Gains 25% In Air-Conditioned Plant Of Johnson Wax Co.

RACINE, Wis.—What happens to office efficiency when all factors of environment are as nearly perfect as architects and engineers know how to make them is answered in a report from S. C. Johnson & Son, Inc., manufacturers of Johnson's wax products.

Describing their first summer's occupation of the completely air-conditioned office building which the famed architect, Frank Lloyd Wright, designed for them, Johnson executives reported that employees are producing from 15 to 25% more work "through a more efficient arrangement of departments, more efficient desks, air conditioning, lighting, and other intangibles which have a direct bearing on the efficiency of the workers."

Because of the air conditioning, all department heads agreed that (1) machine operating errors have been reduced, (2) absenteeism has been lessened, (3) hot weather fatigue has become negligible, (4) daily production of work is nearly constant regardless of outside conditions, (5) it is possible for employees to maintain a better appearance, and (6) employees put in more nearly a 100% working day.

Cost of operating the 100-ton air-conditioning system last summer ran about 10 cents per day per employee (for 250 employees).

No radiators are in evidence, heat being furnished by coils in the air-conditioning system and by pipes embedded in the floor. All the desks, chairs, and other office equipment—even the unique circular elevators—were specially designed to reduce lost motion and achieve a maximum of efficiency.

Detroit Reports Show Gain In Unit Sales

(Concluded from Page 1, Column 1)

of 336. Forty-three self-contained store units, having a total of 183 hp., were sold during 1938. While room cooler sales for the first 11 months of this year were off slightly as compared with last year, they did not include any large single installations. Sales amounted to 182 units, as against 198 in 1938, but the 1938 room-cooler figure included the installation of 83 units in the General Motors building.

Another indication of the upward trend in this type of air-conditioning equipment is shown by the fact that only 16 self-contained store units were marketed in 1939, as compared with 116 room coolers during the same period of 1938.

Three-year record of store and room-cooler sales follows:

	1937	1938	1939
Store Units	16	43	97
Room Coolers	116	198	182

According to preliminary estimates, sales of commercial air-conditioning equipment will be about 5% behind the 1938 total in the Detroit area, Mr. Sanford said.

Tiffany Cools Entire Fifth Avenue Store

NEW YORK CITY—Air conditioning to be installed in the Fifth Avenue establishment of Tiffany & Co. will be powered with a steam-turbine driven compressor, according to Eliot Cross of Cross & Cross, architect for the project.

Other refinements in the 400-ton system, designed by Jaros, Baum & Bolles, consulting engineer, are electrostatic precipitators for removing all impurities from the air, a cooling tower installed for economy, and a compensating control system.

The system is divided into six zones, each with its own blowers, motors, filters, heating and cooling coils, humidifier, and system of ductwork. These systems will serve the sales space on the second and third floors; sales space on the third and fourth floors; executive and clerical departments on the fifth and sixth floors; designing and servicing departments on the seventh floor; manufacturing department on the eighth floor; and shipping department in the basement.

STEAM TURBINE DRIVE

The cooling effect for all air-conditioning equipment will be created by a refrigeration machine in the basement operated in conjunction with a cooling tower on the roof. This will be a rotary machine, driven by a steam turbine, powered from the mains of the New York Steam Co.

Steam will be supplied to heating coils in the six conditioning systems, and to radiators on all floors except the first—so that the building may be heated independently of the air-conditioning system, if desired.

Heat for the first floor will be delivered by a fan from the basement, arranged to create an air-curtain across each entrance door and each window sill. In this way, customers, as well as employees will be protected from drafts.

THERMOSTATIC CONTROL

Control by means of indoor and outdoor thermostats will make it possible to maintain the desired differential in temperature in accordance with prevailing weather conditions. For example, when it is 95° F. outside, the system may maintain an inside temperature of 80° F., but when the temperature outside drops to 80° F. the system will maintain inside conditions of 75° temperature.

With a refrigerating capacity of 400 tons, the Tiffany system requires the pumping of 800 g.p.m. of water to the conditioners, and the circulation of 128,000 c.f.m. of air. The cooling tower handles 85,000 g.p.h. of water.

Contract for heating, ventilating, and air-conditioning work was awarded to Baker, Smith & Co.

Cohen's Cooled

JACKSONVILLE, Fla.—This city's largest department store, Cohen's, is now completely air conditioned.

Summary of Detroit Air-Conditioning Sales

September Air-Conditioning Sales In Detroit		
Where Installed	Make	Hp.
Christian Science Reading Room	Universal	3
Kartsen's Restaurant	York	30
Dixieland Hotel	Carrier	10
Colonial Department Store	Carrier	10
Sam's Cut Rate	Carrier	90
Guardian Glass Co.	Universal	7½
Residence	Westinghouse	2½
Self-Contained Store Units		
Jane's Waffle Shop	Curtis	5
Cadillac Motor Car Co.	Frigidaire	5
Room Coolers		
	1 Philco-York	1½
	2 Carrier ¾	1½
	1 Uncliffed	¾

October Air-Conditioning Sales In Detroit

Cunningham Drug	Ilg Universal	15
Hungarian American Restaurant	Frigidaire	5
Self-Contained Units		
Liggett's Drug Store	Frigidaire (three 5 hp., one 3 hp.)	18
Puritan Garden	Frigidaire	7½
Room Coolers		
Ethyl Gas Corp.	Frigidaire (eleven ¾-hp. units)	8¼

November Air-Conditioning Sales In Detroit

Seville Apartments (Cocktail Bar)	Universal Cooler	15
National Bank of Detroit	Carbondale	50
Times Theater	Universal Cooler	30
Self-Contained Units		
Penobscot Building	Frigidaire	3

\$500 won't buy it—
But it's FREE TO YOU
THIS NEW Dayton
FRACTIONAL HORSEPOWER CATALOG No. 150

Here's an engineering omnibus for users and designers of all types of household appliances and small machinery. Instantly selects without calculation the drive for any small machine. Contains over 165,000 drive combinations in the belt drive tables alone. All fractional horsepower ratings! All speed ratios! Any center distance! Gives dimensions, prices and essential engineering data together with complete list of Fractional Horsepower V-Belts and V-Pulleys. Lists variable Pitch Pulleys for all Fractional Horsepower V-Belts. Lists standard pulley combinations in sequence of pulley sizes. Compact, practical, saves time, trouble and grief.

Perhaps you know that Dayton Standard Fractional Horsepower V-Belt Drives simplify design, reduce costs and assure maximum service. You may be familiar with the patented construction of Dayton V-Belts which give greater strength and endurance. If so, you know that Dayton V-Belts do not squash, twist, vibrate or stretch. They work on extremely short centers. They have extreme crosswise rigidity.

Yet you couldn't possibly have at your finger tips all of the information that's crammed into the engineering omnibus which is Dayton's new Catalog No. 150. In one of its sections over 165,000 drive combinations are shown in the belt drive tables alone. A few of the highlights of No. 150's contents are shown on this page. But only a study of the catalog, itself, will reveal the priceless information it contains.

For instance, the reference tables in sequence of pulley sizes are of tremendous help to the machinery designer in laying out drives for a range of machines to be made on a production basis. Or, if you are developing a machine to be made in quantities, yet one which will be operated at different speeds and capacities, the reference tables automatically give the required information.

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Whether for fractional or a thousand horsepower there is a Dayton V-Belt Drive for the job.



Each one of us here at Ansul, each one of us who represents Ansul, sends good and cordial wishes for a Merry Christmas. And the Ansul Twins and their young brother Ice-X send grateful thanks for all the good things you have put in their stockings throughout 1939.

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METHYL CHLORIDE
ANSUL ICE-X
ANSUL CHEMICAL COMPANY • MARINETTE, WISCONSIN
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DECEMBER 20, 1939
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The Unpopular Front

FINLAND is one foreign nation which practically all Americans hated to see invaded. Finland paid her bills, and minded her own business. Practically everyone joins in deploring Russia's indefensible outrage on the brave little country, and the prayers of all News readers go up alongside those of our Scandinavian subscribers to the hope that the Russian bear may not be so formidable as had previously been guessed.

It's an Ill Wind, But It Blows Smoke Pall Away From U.S.A.

There is just this about Russia's cold-blooded attack, however, which can give the United States cause for self-congratulation:

(1) More than anything else to date, it has made Americans conscious of the fact that the European embroglio is a mess in which we have no conceivable part, a confusion in which there are no clear-cut issues on which we can fight, and a series of complex alignments and counter-alignments which may yet see Germany and Great Britain fighting on the same side.

(2) It has utterly wiped out the pretensions of Communism to intellectual and moral backing. No longer can our educators or our intelligentsia point to Russia as a "nation of peace, a nation with the best interests of the common man at heart, a nation in which humanitarianism is paramount." There is no longer a totalitarian ("planned economy") nation in existence which can look the least bit attractive to an American as a nation in which to live or work, or to emulate over here.

Thus Proving That History Does Repeat Itself

Back in 1938 this editorial page went to some lengths to develop the thesis that throughout history peace—and liberty for the common man—has been possible only when business men were free from governmental control; and, as a corollary, that planned economy

invariably has led to dictatorship, and dictatorship to aggressive war.

Occasionally since that time people (mostly serious-minded engineers) have argued with us in private conversations that this thesis no longer held; that the industrial revolution had changed all values, and that we could no longer look to the lessons of history as a guide for the solutions of the problems of the present.

Planned-Economy States Always Have To Fight

"Times have changed," they said. "You can have a planned economy without totalitarianism and war. Look at Russia. Under a planned economy, her people are happy and content, and of all the nations in Europe and Asia, none has so consistently championed the cause of peace."

Leaving aside the question of the happiness of the people (which few Americans are qualified to judge) it did seem to be a fact that Russia was peaceful. She wouldn't fight Japan, even in the face of humiliating provocation. She was forever proposing peace conferences and peace pacts in Europe.

Like Other Totalitarianisms, Russia Must Seize Wealth Her System Won't Create

All this now appears as mere subterfuge, mere playing for time, while Stalin reorganized his army—said reorganization being accomplished in the usual totalitarian manner of shooting all the officers who didn't agree with the views held by the top politicians. Now that Stalin's army officers are ready to hew to the party line, Russia has started to wipe out the small independent nations nearest at hand—sharpening her teeth, no doubt, for bigger wars of conquest to come.

In the face of this policy of international assassination it no longer is possible for our intellectuals—and this goes in particular for American school teachers, who were playing havoc with the younger generation of Americans—to embrace communism and maintain their self-respect.

Communism Has Been Fashionable Among Duped Intelligentsia

For the last 10 years Communism has been intellectually fashionable. Artists, writers, book reviewers, college professors all followed "the party line" (which means they gave voice to the opinions currently dictated from Moscow, as has been revealed in the Dies committee investigations of such formerly well-thought-of organizations as the League for Peace and Democracy, the League of American Writers, the Yiddish Cultural Society, the Committee for Cultural Freedom, and others).

Our literature—even our novels—was permeated with Communist philosophy. In order to get favorable reviews (and sometimes even to be accepted for publication) a book had to have communism-engendered "social consciousness." And our schools, particularly the colleges, were breeding grounds for a generation brought up to believe that the capitalistic system was outmoded and on its last legs.

They'll Do It Every Time . . . By Jimmie Hatlo



Many New Deal Measures Communitic In Origin

What's more, much of the New Deal, it has recently been shown, was inspired by zealous converts to "the party line" of communistic philosophy. The Communists early infiltrated the C.I.O., the W.P.A., and all through various administrative agencies, working havoc that we may be many, many years repairing.

But today the Stalin-dictated Communistic movement in America is in process of disorderly liquidation. Prominent adherent after adherent has proclaimed his disillusionment—and in so doing, shed interesting light on the profound effect Communism had had on American institutions in recent years. (The Dies committee probe of consumer organizations is a case in point.)

Bankruptcy of Movement Affords Breathing Spell

That the movement will revive under different guise some day and return to plague us cannot be doubted. But its snowball effect has melted. And no longer can it claim intellectual or moral pretensions. For a long time its weight should not be so tremendously effective in the councils of Church, State, and School. It will have to start again, from scratch. And for that breathing spell, those who believe in democracy, liberty, and freedom of enterprise should be profoundly thankful.

And as for the war, and the chances of American involvement, the revised situation is such that American business men should again give thanks. If now anyone says: "We must fight the dictators to save ourselves," the automatic answer is: "Which dictators?" Every nation in Europe with a first-class, or even a second-class, army is now openly a dictatorship. War-minded ("righteously indignant") Americans no longer have any European party to join.

How Can Our Planners Look To Europe For Inspiration Now?

It would appear, then, that we can settle down to the task of remaking America along American lines, instead of along European (totalitarian planned economy)

lines. The planned economy boys, of course, are still around, and still must be reckoned with. But there aren't so many of them, and the starch has been taken out of those who remain.

Off-hand, it's difficult to think of any better omen for good business and prosperity than the current liquidation of what has obviously become the Unpopular Front.

LETTERS

Hoesel Contributes Old-Time Catalogs

Peerless of America, Inc.
Refrigeration and Air Conditioning
Equipment
515 West 35th St., Chicago, Ill.
Dec. 13, 1939

Mr. Cockrell:
Under separate cover, I am sending you the old time catalogs I promised when I last saw you in Chicago. If you want to get a good laugh, just glance over this old time stuff.

Most of these relate back about 25 years ago or so; and, boy, if you don't think the industry has gone some place in that time, all you have to do is look these catalogs over.

I notice where one of the CO₂ machine manufacturers stated, at that time, that Ammonia was a blood poison; and Fred Wolf, in some of his early advertising matter, said that Sulphur Dioxide was a disinfectant . . . evidently in an attempt to give it some good sales point.

A. F. HOESSEL,
Chief Engineer
Answer: Your contribution to the Refrigeration Museum is gratefully acknowledged. The scrap book contains a most interesting collection of early literature on refrigerating machines.

Hoosier Is Happy

306½ No. 15th St.
Richmond, Ind.

Dec. 13, 1939

Sirs:
I was certainly well pleased with the publications I have thus far received and am certain they will be of great help to me.

Enclosed you will find money order for \$2.00 for which you are to send me your publication Manual S-1 on Specifications and a 64-page booklet as advertised in your directory.

If Manual C-2 is ready and has not been shipped you may ship them together.

MONROE MARTIN

Why Dealers Grow Gray



"Does that answer your question, Madam?"

—The New Yorker

Export News

'Cultivate the Individual' Is Advice of A Native South American To Those Who Would Trade In Latin America

DETROIT—Ernest C. Burgin, export manager for Tecumseh Products Co. and Mayson Mfg. Co., leaves here Dec. 21 for a four months trip to the Caribbean area in the interests of the refrigeration lines which he represents.

Rapidly mounting orders and inquiries from Central America and South America since the start of the war in Europe has put the spotlight on these markets, Mr. Burgin declared. The war cut off sources of supply on many items, he points out, and on the other side of the picture the countries "south of the border" will sell more of their predominantly agricultural output in the world market.

Mr. Burgin will drive to Miami, Fla., and may then ferry his car to Havana, Cuba. From Cuba he will go to Puerto Rico, the Dominican Republic, Haiti, Venezuela, Colombia, Panama, Costa Rica, Honduras, Mexico, and then return to Havana.

"Traveling like the tourist does I might make this trip in a couple of weeks," said Mr. Burgin, "but that's no way to do business—particularly in the Latin American countries."

A native of Argentina, Mr. Burgin declares that Americans should make more of an effort to know and understand the character, temper, and customs of the people of the Latin Americas.

"You can't walk in on these people and sit down and start doing business with them immediately," the Tecumseh export manager exclaimed. "You've got to win their confidence, to 'sell yourself' as a person to them."

"For in his mind the Latin American business man to whom you are talking is saying 'his product looks

all right, but what do I know about him, and can I rely upon his word?'"

Proper entree to South American business circles is through South American homes, says Mr. Burgin. Once you are accepted socially getting around to talking business becomes a matter of course, Mr. Burgin declares.

Some knowledge of the customs of the country are also valuable, not only from a business standpoint, but also in the matter of making social contacts—particularly with the closely chaperoned single members of the opposite sex.

"Unless a stranger knows the 'ropes,' he might be in as large a city as Buenos Aires for six months and never meet a single girl," Mr. Burgin explains.

Once a man is accepted by a family, he will find hospitality of a kind he has never experienced before. And if he should become engaged to a daughter of the family, he can virtually live with her parents before the marriage ever takes place.

Mr. Burgin relates the story of one slick Yankee salesman who took advantage of this hospitality, and in telling the story drew the moral that it was such tactics perpetrated by the "ruffian" band of men sent down to the Latin Americas in the 20's that hurt U. S. trade in that area.

It seems that this salesman got himself engaged to two girls of good families living in different sections of Buenos Aires, and virtually lived on their families for nearly a whole year, in the meantime conniving with hotel clerks to run up goodly sized expense accounts.

"He cleaned up, but, of course, he could never return," said Mr. Burgin meaningly.

*A Statement by
Howard E. Blood*



NORGE will soon announce Royal Rollator Refrigeration for 1940 . . . a brand new line of superb refrigerators, in which, from top to floor, there's space galore . . . extra space set free by Rollator simplicity . . . extra space that fairly shouts, "Help yourself to an extra shelf!" In addition to the great competitive advantage of this new Norge achievement, Norge dealers will have many other features of wide appeal. Because I am sure that the greater opportunity promised by Norge in 1940 will be of vital interest to progressive merchants everywhere, I extend a cordial invitation to attend a pre-view showing of the greater Norge. Just write me, personally, and I will see that you are notified promptly as to the time and place of the nearest Norge 1940 Pre-view.

Howard E. Blood

President

Norge Division, Borg-Warner Corp.
670 East Woodbridge St., Detroit, Mich.

The Greater NORGE for 1940

Brazil, Venezuela High In October Exports

WASHINGTON, D. C.—Exports of household electric refrigerators during October totaled 8,405 units valued at \$634,654, according to statistics for the month compiled by the Bureau of Foreign and Domestic Commerce. In addition, 1,045 units valued at \$102,261 were shipped to Alaska, Hawaii, and Puerto Rico.

Brazil led all countries in purchases from U. S. manufacturers in October with 1,252 units, while Netherlands Indies was second with 817 units, Union of South Africa third with 797 units, and Venezuela fourth with 766. Hawaii led U. S. possessions with 769 units.

Exports of commercial refrigerators up to 1-ton capacity totaled 1,157 units during the month, with a valuation of \$133,924, while refrigerator parts shipments during the period totaled \$346,630.

Union of South Africa was our best commercial refrigeration customer, with 161 units, with Brazil trailing close behind with 153, and New Zealand third with 134. Refrigerator parts shipments to Argentina amounted to \$50,541, and to Union of South Africa, \$21,013. Netherlands Indies imported \$12,170 worth of U. S. air conditioners and parts to lead in this department, while British India imports were \$6,450 and Argentina's were \$3,699.

American Steel Export Shifts Personnel

NEW YORK CITY—Five changes in the staff of American Steel Export Co., export distributor of Philco products, were effected in a recent realignment of personnel.

Timothy Williams, formerly associated with Philco Radio & Television Corp. of Great Britain, Ltd. in London, was appointed to handle all export sales of Philco refrigerators and Philco-York air conditioners.

Horacio Lima was named resident manager of "Aseco" in Brazil, while Hans Stauder and Cameron S. Herbert were appointed to corresponding posts in Mexico and Bogota, Colombia, respectively.

Albert A. Bombe, formerly with International General Electric Co., was assigned to South and Central American sales of Philco refrigerators and radios.

Only 23,000 Refrigerators In Use In Mexico

MEXICO CITY, Mexico—Unofficial estimates place the number of household electric refrigerators in use in this country at more than 22,900, the office of the American commercial attaché here reports. Of this number, 60% are thought to be in use in Mexico City itself.

Nema Seeking Improved Treatment on Electrical Exports to Argentina

WASHINGTON, D. C.—Improved treatment for certain electrical products exported to Argentina, as well as correction of trade restrictions of a more general character, are requested in briefs filed by National Electrical Manufacturers Association with officials of the United States government here on behalf of member companies interested in exporting to that country.

Among U. S. electrical products in whose favor the requests are made are fractional horsepower motors, electric ranges, and electric refrigerators.

In general, three types of concessions are requested, based upon difficulties reported by exporting members of Nema:

1. Reductions in rate of Argentine duty are requested in instances where the present rates seem unduly high, particularly where there is no

domestic industry to protect, or where a competitive non-electrical product now enjoys more favorable treatment than is accorded the electrical product.

2. Changes in valuation are sought in several instances. The Argentine duty structure frequently combines weight and value, the value often being arbitrary. In some instances, for example, fractional horsepower motors, this valuation is high and results in a very high ad valorem duty.

3. Changes in classification are requested in a few instances. For example, control apparatus, starting compensators, etc. are classified differently from the motors with which they are used, and receive different treatment if imported with the motor or separately.

Walker Co. Founded As Air Conditioning Firm

LOS ANGELES—Roland P. Walker has recently organized the R. P. Walker Heating & Air Conditioning Co. here.

South American Agent Seeks More Lines

CHICAGO—Jose Luis Pontet of Buenos Aires, Argentina, representative for Midwest Mfg. Co. in that country of South America, is on a visit to the United States in an effort to secure representation for companies producing all types of refrigeration component parts.

Until Dec. 29, when he plans to return to South America, he may be reached in care of the Hotel New Yorker, 8th Ave. at 34th St., New York City.

Two Cities Use Most of Brazil's Refrigerators

RIO DE JANEIRO, Brazil—Between 30,000 and 35,000 household electric refrigerators are now in use in this country, according to estimates by the trade. About 75% of this number are in the cities of Rio de Janeiro and Sao Paulo.



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Artice

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Locker Storages

Model Processing Practices After Those of Commercial Meat Plants, Advises Bull

DES MOINES, Iowa—Practices of commercial meat packers applicable to the requirements of locker plant operators were discussed in a paper titled "Processing Meats for Locker Storage" given by Sleeter Bull, professor of meats, University of Illinois, at the National Refrigerated Locker Conference here Dec. 7.

Addressing a group of 400 plant operators and refrigeration distributors, Prof. Bull outlined general practices to be followed in slaughtering, chilling, and freezing meats for locker storage. His talk also covered handling and processing methods for smoking, curing and rendering of pork products, and timing and temperature influences on freezing and storing of fresh meats.

"There are two ways of gaining wisdom," stated Prof. Bull. "One is by experience, the other research."

"Unfortunately, the infant locker storage industry is too new to have gained conclusive benefits from either. There are as yet no definite and final answers to the questions asked me by plant operators and plant patrons. I give different answers to those questions today from those I gave a year ago. Probably a year from now I will give still different answers."

"Operators have the general commercial practices of meat packers and a decade of frozen food experience to call upon. My observations are based largely on these commercial practices."

SLAUGHTERING IMPORTANT

Urging that plant operators either do the killing of livestock themselves or properly educate their patrons to the necessity of following instructions compiled by experts, Prof. Bull called attention to the booklets on farm slaughtering offered by state agricultural societies and by the U. S. Department of Agriculture.

In regard to dressing of the carcasses, he called attention to the common mistakes made, particularly in preparing hogs for the hanging or chill room.

"The hair should be removed by scalding, rather than by singeing or by the tedious procedure of skinning," declared Prof. Bull. "Singeing often results in partially cooking the exterior layer of skin, with bad freezing results."

"The carcass should be split down the center of the backbone with a meat saw—not down each side with an axe as is frequently done by the farmer. Leaf fat should be removed immediately, as it comes out easier when the carcass is warm, and allows the carcass to cool faster."

"Calves should be delivered to the plant with the skins on. This will raise your processing costs somewhat, but you will be able to sell the skins. Carcasses should be thoroughly washed with water and rubbed with a cloth to remove all the dirt while they are still hot. It is impossible to get the carcasses thoroughly clean when cooled, and cleanliness is a point which you should continually stress with your farm trade."

"Carcasses should be placed in the cooling room as quickly as possible, particularly during the summer season and where the weight is 1,000 lbs. or more. Some large packers inject a brine solution into the hip joints of every large carcass to prevent bone rot."

"Each carcass should also be carefully inspected by the plant manager to guard against spoilage and bruises."

"Spoiled meat is not improved by freezing. It usually stinks and that stink spreads to other lockers."

"Bruises should also be noted—a small surface bruise may be large inside. All of this area must be cut out and the patrons should under-

stand so that they will not think they are being cheated."

Recommending the use of two chill rooms, Prof. Bull pointed out that fresh carcasses hung in a near-freezing room not only raise temperatures but cause steam condensation and frost on other carcasses hung in the room. Lacking facilities for two separate rooms, he recommended the use of a heavy canvass partition.

"Ripening," said Prof. Bull, "is the process by which, after hanging for a considerable time in the chill room, sugar in the meat tissues is broken down by the action of enzymes to form lactic acid. This acid in turn causes gelatin formations of the heavy tissues, resulting in tender meat."

RIPENING TROUBLES

"Unfortunately, lean and young meat decomposes instead of ripening. Mature, fat meat is needed to ripen properly and it must be of choice or prime grades. Little of the meat hung and stored in locker plants falls within these classifications despite the claims of the owner patron."

Urging that ripening hanging be discouraged in locker plant operation, Prof. Bull mentioned several incidents in which meat had been hung to ripen and had actually spoiled, acquiring a strong taint which was passed on to other carcasses hanging in the same room.

He also pointed out that lamb, veal, pork, and the lower grades of beef were never commercially ripened. Average commercial time for chilling of these meats is 48 hours.

"Commercially, well ripened meat is served only in the finest hotels, restaurants, and dining cars. Such meats are trimmed on all surfaces," he stated, "and few locker patrons can afford this luxury nor can operators spend the necessary time for correct preparation."

Freezing, particularly of pork, should be done as quickly as possible after slaughtering—usually 48 hours, warned Prof. Bull, to prevent rancidity.

Cutting and curing for locker storage does not vary greatly from commercial practice, he reported. There are some modifications necessary because of freezer applications and to more economically utilize all portions of the carcass.

"Bony cuts such as briskets, necks, etc. are best boned and ground for hamburger," advised Prof. Bull. "This saves space and increases the efficiency of locker space."

"Ribs should be cut in roasts, hotel style, with short ribs cut and wrapped separately or used fresh to save space."

"Ends of chops and other bony projections should be trimmed off to prevent tearing the storage paper."

"Skinning all hams, leaving $\frac{1}{4}$ to $\frac{1}{2}$ inch of fat over the lean will make the ham easier to cure and freeze. The fat can be used for lard."

"Hams over 18 or 20 pounds should be cut in two or more pieces for faster freezing. Pork shoulders should be cut up to make the curing

Careful Planning Plus Ingenious Design Makes Illinois Locker Plant Complete Though Small

GIRARD, Ill.—Comparatively small but extremely compact, the F. H. Marquard Refrigerated Locker Service plant here has all of the essential features of most of the larger plants, with the exception of slaughtering facilities. Opened about a year ago, this plant now has some seventy lockers rented.

Machine and high side of this plant were purchased second-hand and overhauled, but have given very satisfactory service, according to the owner, Mr. Marquard. The 4 x 4 Frick compressor is connected to a $7\frac{1}{2}$ -hp. motor. A pressure recording gauge installed in view of the office and display room keeps track of condensing pressures and therefore gives a clue to the operating time of the compressor.

Water pump for the cooling tower is driven from an extra pulley on the compressor shaft.

The freezer is operated from three to five hours about two days a week by setting the machine to the "run" position. During these freezing periods power consumption is about 10 kwh. more than on other days. This freezing process is under automatic control, with thermal and solenoid valves located just over the freezer door. This control is used for the locker and chill room also.

The freezer room itself is equipped with a Frick overhead double VW coil with float control and blast fan. Freezing is done in batches. During

the freezing period the machine is not cut out at the normal point at which it is maintained by the thermostat in the locker room. The freezer room is big enough to accommodate four trucks, each about 30 x 20 inches and having five shelves. One of these trucks will hold 200 lbs. of meat without backing too closely.

Mr. Marquard found that the slop-over from the freezer was more than the accumulator would evaporate, even though it had a liquid cooling coil in it. He has, therefore, made a liquid drain connection from the bottom of it to the bottom of the angle wall coil in the chill room. This system works well and gives dry gas at the compressor, it is said. The chill room control, of course, functions only at such time as this room is not receiving refrigeration through this connection to the accumulator.

Another feature of the plant is the triple-glass window in the combination processing and ante room. This window makes it possible for the operator to see what is going on in the office, and also lets some light into the processing room. Arranged in this manner, the processing room is always at a temperature of not over 50° F., which helps minimize danger of odors and insects.

Mr. Marquard reports that power consumption for his plant has averaged 400 kwh. per month.

process less hazardous. Often blood left in the veins in the inner portions of the shoulder prevents proper curing. Bostons and clear plates, suitable for curing in dry salt for use with baked beans, can be obtained.

"Bony cuts such as hocks, spare ribs, etc. are not valuable enough to justify freezing and should be used fresh."

"Sausage should be prepared and frozen with a minimum of seasoning to prevent both discoloration and rancidity. A small amount of oat flour (about 1%) also helps to preserve sausage meat."

INVENTORY ADVISABLE

"Patrons using locker plant facilities live better and eat better than they otherwise would," Prof. Bull stated.

"For this reason they often fail to realize the amount of food they take from the locker. It is best to prepare an inventory sheet of all cuts as each carcass is processed. This should be prepared in duplicate and a copy provided the patron, so that each cut can be checked off as withdrawn. This will prevent unjust claims of pilfering."

"By education and this type of bookkeeping we must convince patrons that their lockers are not subject to theft or their cuts reduced in size illegally as processed. We must also educate them to the fact that 200 pounds of carcass does not equal 200 pounds of roasts, steaks, chops, and other finished cuts."

Discussing the subject of curing, Prof. Bull suggested the curing and smoking royalties as a profitable source of revenue.

For bacon, he recommended a mild box cure, using a watertight box approximately 10 x 20 x 24 inches deep with a hard wood cover fitted inside. The box should be of hardwood and may be lined.

"Bellies should be thoroughly soaked in the curing solution, then placed skin side down except for the last piece. Chunks and ends should be fitted with scraps of meat to fill the box completely. The cover should be weighted down and the box left for one week. The bacon should then be removed, resoaked, repacked with the other side of the piece down and left 20 to 25 days."

"At the end of this time, meat should be removed, soaked one hour

and hung in the smokehouse to dry, then placed in the locker if storage is desired for any length of time."

For curing of hams, Prof. Bull recommended the brine process with a reasonably quick cure. While recognizing the advantages of the 50-day method, he stated that there is no place for the storage of such hams in the well operated locker plant.

After curing, the meat should be soaked, scrubbed, and hung overnight in the smokehouse to dry, he stated. Green hickory, apple, maple, or corn cobs are satisfactory for the smoking process. This wood should be covered with hardwood chips and temperature and density of smoke determined by the flavor desired. As an average, Prof. Bull explained, 24 hours with heavy smoke at 120° F. are used commercially and result in fine flavor and the characteristic popular hemlock brown skin.

"Lard rendering," reports Prof. Bull, "is a profitable end of the locker business and the service should be offered."

"Requirements are steam-jacketed kettles and press for 30 pounds pressure."

"It is not necessary to render each patron's lard separately. Hog fat renders about 80% lard and this average loss can be apportioned."

EFFECT OF COOLING

"A cooler or agitator with a water-cooled jacket will result in creamier, whiter lard. After cooling, strain into tin pans or pails fitted with tight covers and avoid rust spots; avoid spilling or slopping lard on walls or lid as this will cause quick rancidity of these portions."

"Don't put lard in stone jars, they cannot be covered tightly and rancidity will develop."

In concluding his talk, Prof. Bull stated that temperatures for freezing rooms varied widely with equal success but that in the light of present knowledge he felt -10° to -20° F., was about right, with allowances depending on type of cooling medium used. Regarding maximum time for storage of meats, he cited several incidents to dispute various statements as to maximum time permissible and ended by advising a maximum time of three to four months for pork, and six months for beef unless all excess fat has been trimmed to prevent rancidity.

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Air-Borne Bacteria In Cooling Systems Reduced By Ultra-Violet Radiation

By L. C. Porter and P. W. Neidhardt, General Electric Co.,
Nela Park, Cleveland, Ohio

PROSPECTS of a new approach in air conditioning are appearing as a result of the development of efficient, low-wattage sources of germicidal ultraviolet energy for killing air-borne bacteria. Now the heating and ventilating engineer can be concerned not only with the temperature and humidity of the air, but also with its freedom from pathogenic bacteria.

Since air-borne bacteria are known to be a source of many diseases, principally those involving the respiratory tract, the possibility of removing most of the bacteria in air passing through a ventilating system offers a broad, new opportunity in air conditioning.

The germicidal effects of ultraviolet energy were not just recently discovered. Natural sunlight has long been regarded as an effective sterilizing agent, and tests have proved that it is the ultraviolet energy in the sun's radiation that actually does the work. Several years ago biologists and physicists learned that the maximum germicidal effects could be obtained from short-wave ultraviolet, or wavelengths much shorter than those present in the solar spectrum. Powerful sources of this energy were developed, but their application was limited by their size, high current, and voltage requirements, and ozone production.

Now the development of simple, compact, but potent sources of ultraviolet which produce only minute quantities of ozone greatly extends the opportunities for use of this radiation for the benefit of mankind.

WHAT IS ULTRAVIOLET?

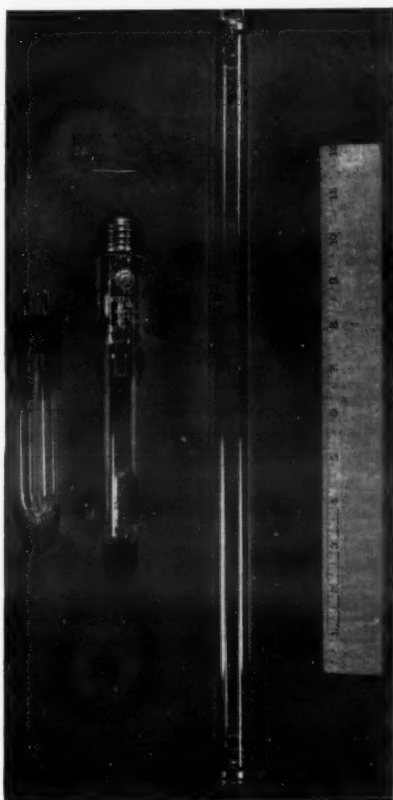
In the sunlight with which we are all familiar, there are three general groups of radiant energy—infra-red, which is invisible but produces heat; visible radiation or light, which enables us to see; and ultraviolet, which is invisible but gives us our sunburn and tan in the summertime. The only difference in these kinds of energy is the lengths of their waves—the infra-red are the longest, the visible are shorter, and the ultraviolet are still shorter.

The ultraviolet that we receive from the sun is known as "near ultraviolet"—it is near to the visible lengths. Shorter waves, known as "middle and far ultraviolet" are filtered out by the atmosphere surrounding the earth. The highest germicidal potency is in the "far ultraviolet."

Three efficient sources of this energy have been made available by the General Electric Co.—the 15-watt, 5-watt, and 3-watt Germicidal lamps. The potency of the 15-watt lamp makes it the source to use for large scale sterilization of air. Properly installed and maintained, this lamp can be a valuable aid in combating the spread of disease by air-borne bacteria.

The radiation of the lamp is produced by current passing from electrode to electrode through mercury vapor. Special ultraviolet transmitting glass is used, since ordinary glass is opaque to short-wave ultraviolet.

The useful life of these lamps is limited by the depreciation of their ultraviolet output rather than by actual burnout or failure to start.



G-E ultraviolet lamps in 15, 5, and 3-watt sizes are used to combat bacteria in air.

The 15-watt lamps have a rated life of 1,500 hours, but some have tested up to 60% of initial efficiency after 3,100 hours. It is probably desirable to replace the lamps before they have dropped to 50% of their initial efficiency. This depends upon the conditions of use. Where the lamps are turned on and off frequently their life is shorter than where they are burned continuously.

It is essential to keep clean the lamps and any reflecting material used in the duct to increase the concentration of ultraviolet energy. Very slight films of dust or dirt, and particularly grease, materially reduce the output of the lamp and the ability of the reflector to reflect short-wave ultraviolet radiation. It is recommended that a regular cleaning schedule be set up in connection with any installation of the lamps.

WHAT CAN BE DONE WITH ULTRAVIOLET

Reduction of the bacteria content of the air in a given room with ultraviolet energy can be accomplished in two ways—by installing the lamps inside the duct bringing fresh air or recirculated air to the room and by placing the sources in the room itself, in fixtures shielding the lamp from the eyes of any occupants.

Bacteria in air passing within range of the lamp and exposed for a sufficient length of time will be killed. As the air circulates through

"Air-Borne Infections," The Modern Hospital, Vol. 51, No. 1, July, 1938

the room most of it can pass sufficiently close to germicidal lamps to have a large proportion of the bacteria removed.

Extensive experiments on the subject have been conducted under the direction of W. F. Wells, of the University of Pennsylvania Laboratory for the Study of Air-Borne Diseases. In an article published in the Modern Hospital*, Dr. Wells suggested that 25 to 100 turnovers of air per hour in a room be considered as fair conditions of sanitary ventilation. Ventilating systems, he pointed out, under exceptional conditions may increase the normal turnover of air to 25, but not enough to provide sanitary conditions.

"The introduction of ultraviolet as a new factor in ventilation has made practical turnover values above 100, which we hold to be good," Wells wrote, "and even more than 500, which we hold to be excellent sanitary ventilation."

The efficiency of germicidal lamps is affected by humidity and temperature, but it has been found that when bacteria (B-Coli) are artificially introduced into an air stream at normal temperature and humidity one 15-watt tube in an air duct of non-reflecting material will reduce the bacteria count 97% with an airflow of 200 cubic feet per minute.

If the duct is lined with a material that is a good reflector of ultraviolet (oxidized aluminum has been found best) the amount of air that can be sterilized by the lamps will be increased considerably. When air is moving through a duct at a higher rate than 200 cubic feet per minute, more lamps can be installed to obtain the proper ratio of exposure time and intensity of radiation.

Germicidal lamps are being used in hospitals to provide "curtains" of ultraviolet in doorways as barriers against cross-infection, in ducts to provide sterilized delivered air and in overhead fixtures to reduce generally the bacteria content of the air. They are being tested in a Pennsylvania kindergarten room to determine their ability to inhibit the spread of disease.

Conclusive results are not available. How effectively germicidal lamps can be applied in theaters, stores, offices, factories, and homes is a matter to be worked out in cooperation with air conditioning and ventilating engineers. However, it is not inconceivable that the ducts that deliver cool air for comfort in summer can deliver sterilized air for health in winter.

Modern Proverb: 'Cool Man Is Happy Man'

ST. LOUIS—"I don't want to know how it works," declared Walbert Lum, speaking of the new 4-ton Westinghouse self-contained conditioning unit installed in his restaurant this year. "I prefer to be happy with it as it is, and to be aware that it brings trade to my Lotus Inn."

Asked how much the air conditioning had helped increase business during the summer, Lum retired to his tiny office space, adjacent to the air-cooling unit and produced two items—one a Chinese counting board, and the other a modern, efficient looking bookkeeping ledger.

With the index finger of one hand on the ledger and the fingers of the other flying swiftly over the wooden rings on the Chinese counting board, Lum came up with the answer, "Business increase 20%—maybe more."

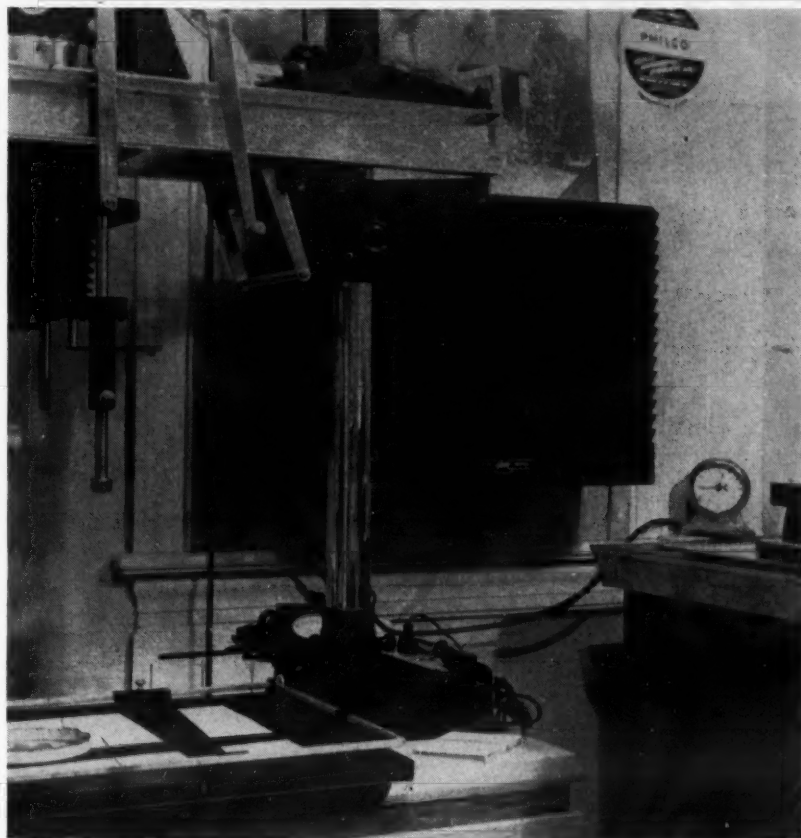
While Lum has been familiar with the use of refrigeration in the preservation of foods for many years, it was not until the air-conditioning unit was installed that he discovered its use as a trade stimulant. Lum confessed that Chinese restaurants ordinarily lose ground during hot weather, because Chinese dishes should be served piping hot.

300 G-E Units Added To Large Houston Job

HOUSTON, Tex.—Purchase of 300 more special room conditioners by the Charles G. Heyne Co. here recently supplements the original purchase of 1,650 units for air conditioning three large Texas office buildings; the Fair Building, Fort Worth, and the Gulf and Chamber of Commerce buildings in Houston.

The 1,950 units were designed by General Electric in cooperation with Kribs and Landauer.

Philco-York Conditioner Cools Dark Room



Discovery that the heat and dampness of the darkroom used for developing and printing pictures was affecting his health prompted a Philadelphia photographer to install a Philco Cool-Wave conditioner. After the unit was installed it occurred to him that other photographers might be experiencing the same difficulty. Although cool weather had already set in, he sold three cooling units of the same model within one week—to other members of his craft.

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Installation Methods

'How Many Valves' Are Needed For an Economical Yet Easy-To-Service System?

Engineer Tells Proper Use of Auxiliary Valves

By H. E. Verrill, Engineering Department, Kerotest Mfg. Co.

Since the beginning of the commercial refrigeration industry on its present scale, service men and installation contractors have been faced with the question of just how many and what kind of shut-off valves should be included in any particular installation.

On one hand is the low-cost, hard-to-service installation equipped with only the valves supplied by the manufacturer of the condensing unit in contrast with the complicated, "gadjet" system, full of cross-connections and requiring the services of a licensed engineer.

Somewhere between these two extremes there must be a common-sense middle ground where the advantages of ease and efficiency of service and convenience to the owner may be attained without making the system complicated or the cost prohibitive.

Extremely low selling prices require the elimination of many accessories necessary to a well planned installation. In some sections of

the country there is, and has been for some time, a marked tendency to eliminate practically all accessories, including valves, even on multiple installations. This is due to extremely competitive bidding, price-selling, and the eagerness of the individual contractors to have the lowest bid as a sales argument.

The wisdom and economy in following this practice can very easily be doubted when factors other than initial cost are taken into consideration. From the standpoint of the contractor making the installation, a small initial saving can be effected if accessories are left out. However, if this contractor assumes the responsibility for the correct and efficient operation of the system during its guarantee period, a certain sum of money must be set aside to provide for repairs, adjustments, etc. made to the system during that time.

A comparison between the actual cost to the contractor of service calls made on the job during its guarantee and the amount of money

originally set aside as a service reserve is, in the final analysis, the best measure as to whether or not the sale was profitable. If the total cost of service has exceeded the reserve amount, the profit on the job has been reduced accordingly. A large percentage of installations of this type will probably show a loss if analyzed in this manner.

Lack of Valves May Make A Dissatisfied User

From the point of view of the owner, a scarcity of valves and other necessary accessories means a system requiring unnecessary service calls and adjustments during the guarantee period. These calls are always accompanied by considerable inconvenience and a certain financial loss from food spoilage, loss of business, etc.

However, these factors really become serious after the expiration of the free service period. The owner suddenly discovers that, while his refrigeration equipment has increased his profits, these same profits are being reduced by unnecessary, repeated, and expensive repairs and adjustments.

With the aid of proper accessories and valves, trouble can be better diagnosed and more quickly remedied. The owner realizes, too late, his mistake in buying on price alone and no longer has the faith in the contractor that he had originally.

Another extremely important factor which should be given serious consideration when planning an installation is the possibility of accidents occurring either during servicing or due to faulty operation of some part. It has been the practice in some instances of multiple installations to install receivers whose liquid capacity is far below the total refrigerant charge of the system.

Accidents expensive to both owner and service contractor have resulted from attempts to remove the charge from the low side when high pressure safety devices were absent or inoperative. The presence of proper shut-off valves would have eliminated the necessity of evacuating the entire low side of the system and would have materially reduced the probability of a serious accident.

The Auxiliary Valves That Pay Off

The question now arises as to just what valves and accessories should be installed in order to render a system easy to service and convenient to operate. Where the job consists of a single compressor operating on a single coil or low side, valves other than those supplied by the manufacturer are almost always disregarded and are not as necessary as on the other types of installations.

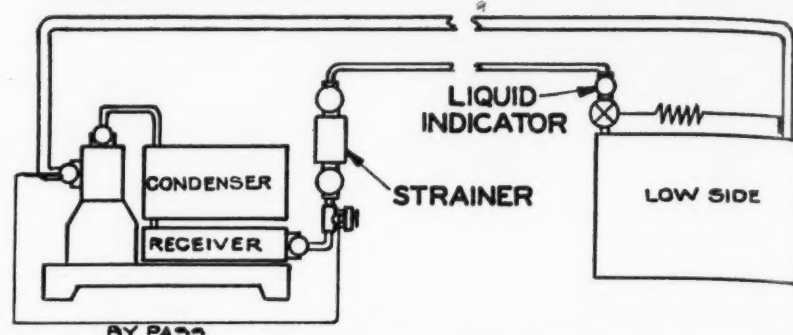
Shut-off or bypass valves on both sides of a filter, strainer, or permanent drier will materially reduce servicing time and will ordinarily save many times more than their cost during a guarantee period and, therefore, should not be overlooked.

In the absence of a master liquid line strainer, where the liquid line is of considerable length, the bypass type of receiver valve will pay for itself in one service call due to a plugged expansion valve screen. This valve enables the liquid line to be evacuated even though the expansion valve end is closed, thereby saving considerable costly refrigerant.

In sizeable installations where receiver valves of this type are not available, a standard three-way valve installed in the liquid line near the condenser will serve the same purpose. This same valve also serves admirably for charging. By reducing the pressure on the low side and attaching the drum in an inverted position to this valve, liquid refrigerant can readily be introduced into a part of the equipment intended to handle liquid.

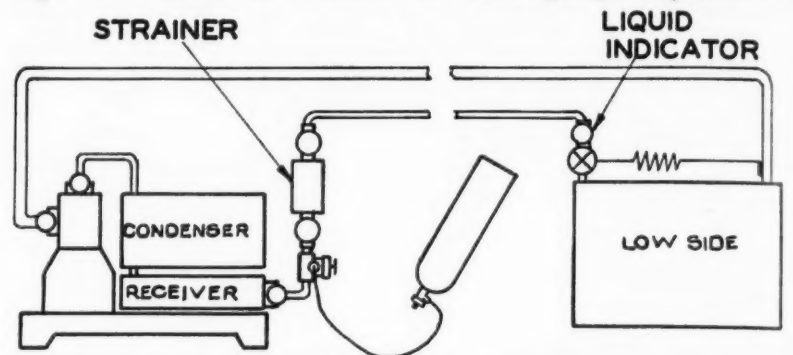
On applications where one compressor feeds two or more low sides located in the same refrigerated space, it is usually desirable to be able to evacuate and repair one low

Fig. 1—Location of Liquid Line Valve



Illustrating the use of an auxiliary liquid valve for evacuating the liquid line. On applications where one compressor feeds two or more low sides located in the same refrigerated space, it is desirable to be able to evacuate and repair one low side while maintaining partial refrigeration by means of the others. This is not possible unless suction and liquid line shut-off valves are provided on each coil.

Fig. 2—Use of Valve In Charging Operation



In this drawing is shown the use of the auxiliary liquid line valve in the charging operation. Note location of the strainer and liquid indicator.

side while maintaining partial refrigeration by means of the others.

Also on meat storage applications additional flexibility for cold weather operation may be attained if one coil can be temporarily closed off. Neither of these desirable features is possible unless suction and liquid line shut-off valves are provided on each coil.

Multiple installations require, by far, the most careful planning and the greatest number of valves and other accessories. In general, each low side should have its own liquid and suction line shut-off valves. Manifolds are the most common and economical method of providing this feature, although in some cases it is more desirable to install individual shut-off valves near the several pieces of equipment.

On Multiple Systems Pumpdowns Are Factor

In cases of large multiple systems it is certainly false economy to overlook proper valves at the time of installation, and later, when servicing is required on a single low side, to be forced to pump down the entire system. The single operation of evacuating the entire low side often requires as much time as repairs to the defective coil if it could be isolated. Bypass and charging valves previously referred to in connection with simpler systems should also be included in multiple installations.

In general, the larger and more complex the job, the more important it is that it be equipped with the proper valves and accessories.

Regarding the ease of operation and convenience to the owner ordinarily if an installation is well equipped from a servicing standpoint, it will be convenient to operate. The needs of the owner are usually limited to being able to temporarily close off one part of a multiple installation when that part is not in use or for cleaning purposes. These factors are provided by the valves mentioned above.

In connection with low-temperature multiple installations, hot-gas defrosting may be very economically provided by use of a single manifold connected into the compressor discharge line and feeding into the separate coils. Use of this system allows defrosting of any coil separately while maintaining some degree of refrigeration on the other parts of the system.

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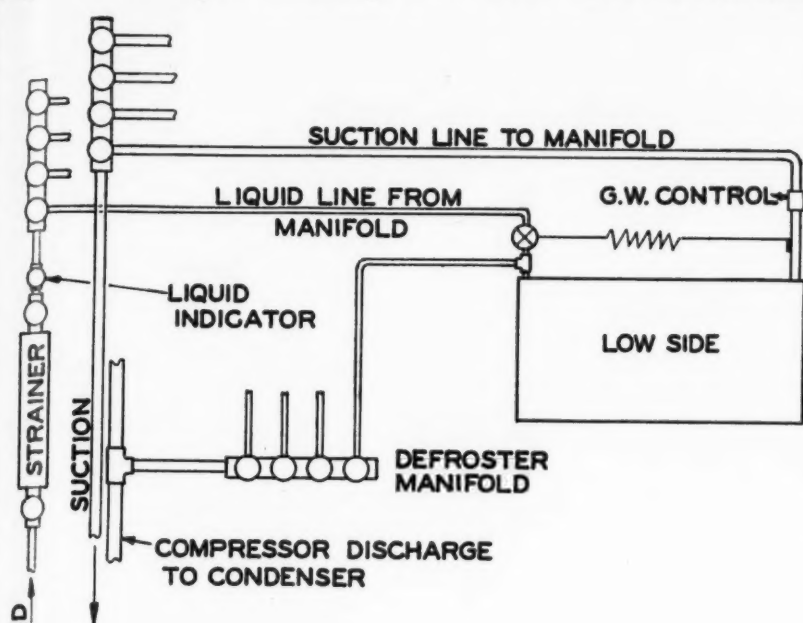


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Fig. 3—Simple Hookup For Hot Gas Defrosting



Connections of manifold for hot gas defrosting. In low-temperature multiple jobs, hot gas defrosting can be economically provided by use of a single manifold connected into the compressor discharge line and feeding into the separate coils.

Liquid Indicator May Pay Big Dividends

(Concluded from Page 12, Column 5) taking advantage of the sub-cooling effect of the heat exchanger and regulating the head pressure to the most efficient and economical point. It has been estimated by experienced engineers that as much as 20% of the initial refrigerant charge can be saved if the installation is made in this manner, and the head pressure properly adjusted.

Regardless of the size of the job, a liquid indicator removes guesswork from the process of determining whether or not there is sufficient refrigerant present. This saves valuable servicing time and also eliminates the possibility of the job being overcharged in order to "be sure." Throughout the country the better class of installation and service organizations are gradually coming to the belief that, while installations

should be made economically and in a common-sense, logical manner, the best installation is not the cheapest, and the cheapest is the least economical in the long run.

If, at the end of the guarantee period, the contractor finds that he has lost money on servicing some installations, an analysis will almost always reveal poor installation practices.

Better planning and the addition of a few well chosen accessories would have at least materially reduced his servicing time, if not eliminated some calls altogether.

On the other hand, if he has made a profit on his service reserve, it is usually the case that those installations were well-planned and equipped with the proper accessories and valves.

Sheet Metal Workers Return To Right Name

MILWAUKEE — The Milwaukee Master Sheet Metal, Heating, Ventilating and Air Conditioning Contractors' Association has shortened its name to the Milwaukee Sheet Metal Contractors' Association. New officers are Angelo Hoffmann, president; Martin Schaar, first vice president; Walter Mark, treasurer; Harry Eschenburg, secretary; and Paul L. Biersach, executive secretary.

ASRE Water Cooler Standards Published

NEW YORK CITY — Proposed standard methods of rating and testing self-contained mechanically refrigerated water coolers have been issued by the American Society of Refrigerating Engineers for A.S.R.E. membership review.

The standards were prepared by a special A.S.R.E. sub-committee composed of J. L. Gibson, chairman; A. A. Ralston, R. H. Tull, J. J. Corey, and H. F. Hutzel.

Copies of the standards, designated as A.S.R.E. circular No. 18, are obtainable from the society's headquarters, 37 W. 39th St., at a cost of 20 cents each.

Westinghouse Employees Get an Extra 6%

EAST PITTSBURGH, Pa.—Adjusted compensation of 6% will be paid to all Westinghouse employees for November, in accordance with the company's wage and salary plan. The amount of adjusted compensation is established each month in proportion to the net earnings of the preceding three months.

Net earnings for the last three months were \$3,321,022, of which \$853,045 was earned in August, \$1,104,137 in September, and \$1,363,840 in October. Last month the adjusted compensation to all Westinghouse employees was 4%.

Approximately 45,000 employees will receive this month's extra compensation in the company's 57 manufacturing and service plants throughout the country, and in hundreds of sales and service offices.

'Catchy' Advertising In Phone Book Can Up Service Business

ST. LOUIS — "For refrigeration service, see the yellow pages of your telephone directory." And that is where many refrigerator users locate their service men for emergency or routine repairs, and many service firms have worked out customer-catching advertisements which make the "yellow pages" a good source of new business.

Plenty of clever ideas have been used and new ones come along with every new directory issue, but here's just a few that have proved their service-selling worth.

A Frigidaire service firm in St. Louis uses a one-third page space in the directory to tell service prospects of the firm's three stores. A map, showing three different territories, is presented, and customers are told to "call the station within your boundary." The three territories are served by West Side Refrigeration Service, South Side Refrigeration Service, and North Side Refrigeration Service.

Each of these stations has an easy-to-remember telephone number, the north station's phone number being ED 1900, the south station, TR 4343, and the west station, CA 5500.

GETTING THE RIGHT NUMBER

Telephone numbers with even hundreds or double repetition stick in a customer's mind. Frigid Refrigerator Service Corp., St. Louis, has for its telephone number, Jefferson 7575—another double repeat—and emphasizes the number with a large reverse plate field. City Refrigeration Service Co., also in St. Louis, has the number Forest 2200, and in a clever sketch combines the large question mark which follows "Refrigeration Trouble" with an arrow pointing to the telephone number.

Other telephone numbers that can be "sold" are those having an ascending or descending series (123, 987), repeated digits (333), or low numbers.

SOME COPY IDEAS

Special catchlines, extra or exclusive services, have special appeals which pull in the service business via directory advertising. Prompt service, reasonable prices, use of genuine factory parts, service on all makes and models, use of factory methods, 24-hour service, and even "cut rate refrigeration service" are advertised.

Frigid Refrigerator Service Co., St. Louis, has this rather unique sales argument in its directory advertisement: "We protect you with workmen's compensation, property damage, and public liability insurance." Arrowsmith Service Co., St. Louis, has the slogan "Calls us first."

Jay Dee Refrigeration Co. of Providence, R. I. advertises that "no service is too large; no service too small." It illustrates this announcement with a sketch in which a hospital, market, grocery, hotel, and a florist shop are shown. Factory-trained experts are promised—"anytime, anywhere."

Every city telephone directory would produce examples of the service companies bids for business through the "yellow pages." And as the bulk of the requests for refrigeration service comes in over the telephone, the firm with the directory advertisement that "sells" can cash in on increased business from this source.

Serviceman Injured In 'Freak' Accident

SYRACUSE, N. Y.—Struck by a heavy wrench which slipped while he was tightening a nut on a refrigerator compressor, Carl Stewart, an employee of Cooney Refrigeration Co., Inc., suffered a compound fracture of the skull and fractures of the nose and right thumb. The accident occurred at the plant of Greenhouse Bros. & Finkelstein here.

Casper Electrical League Reports Successful Show

CASPER, Wyo.—Second annual electrical show held here under sponsorship of appliance dealers and Mountain States Power Co. drew big crowds and dealers drew big sales, according to John Peach, president of the Casper Electrical League.

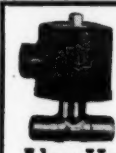
Feature attraction was a display comparing old appliances with today's models. Attendance prizes and contests livened interest in the show. George Lewis, Denver, manager of Rocky Mountain Electrical League, was in charge of show activities.

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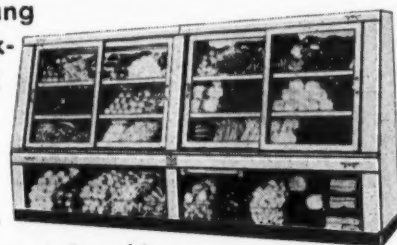
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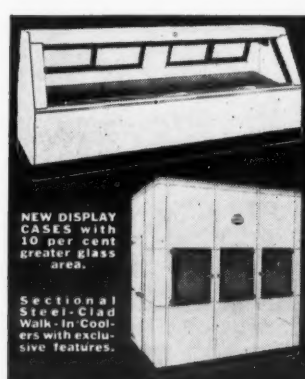
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QUIT YOUR SHOVIN!
ASK EDDIE GRAFF
HOTEL STEVENS... Jan. 15-18

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IDEAL SPEED COOLER
Ideal Beer Cooler Co.
2953 Easton Ave., St. Louis, Mo.

**We Manufacture Only
Food Storage Lockers**
Our entire time is devoted to the
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Master Refrigerated Locker Systems, Inc.
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Finned Tube Products
Since 1907 for COOLING,
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MAKE BIGGER PROFITS

TYLER full line dealers and distributors are
setting new records for sales and profits. Tyler's
big line enables you to completely outfit modern
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struction. Phenomenal values. Display Cases...
Reach-Ins... Walk-Ins... Vegetable Displays...
and special type refrigerators to fit all needs.
New 1940 line now ready. Write for details.

TYLER FIXTURE CORP., Dept. E, Niles, Mich.
New York Office: 601 W. 26th St.
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REACH-IN BOXES—
40% greater capacity.
TYLER
WELDED STEEL Refrigerators

STARTING LOAD REGULATOR VALVE

To relieve starting overload on motor, permitting the
compressor to run "light" while pulling low-side pressure
down to normal, the starting load regulator valve
prevents starting overload on motor.

It is used to relieve frequent overloads on such units
as barrel beer coolers, meat boxes and refrigerated trucks.
When the compressor first starts, the valve remains
closed, metering low-side gases through a bleeder and
then opens up wide when safe load pressure is reached.

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1481 Fourteenth Avenue DETROIT, MICHIGAN

Pacific Coast Warehouse Stocks—Van D. Clothier, 1015 E. 16th, Los Angeles, Cal.
Export: Borg-Warner International Corp., 310 S. Michigan Ave., Chicago, Ill.

QUICK SERVICE
Complete
**stocks of REFRIGERATION and
AIR CONDITIONING SUPPLIES
and EQUIPMENT**
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3 CHICAGO BRANCHES, NORTH, WEST, SOUTH

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Be Sure The New Year Brings You New Customers
Sell LARKIN Refrigeration Products—they bring you new sales—new profits

Patented LARKIN COILS
HUMI-TEMP Units
DISEMINATOR Pans
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COMBINATION
STRAINER
AND LIQUID
INDICATOR

TYPE
888



Gas bubbles passing under liquid sight port reveal
shortage of refrigerant in system. Soldered brass
shell. Sight port cap and gasket provide added
seal and protects glass from breakage. Hemispher-
ical screen has 90% greater filtering area than
usual flat disc. 120 mesh reinforced brass screen.

HENRY VALVE CO. 1001-19 N. SPAULDING AVE.
CHICAGO, ILLINOIS
STOCKED BY LEADING JOBBERS

New Products

Kitchen Cabinets Have Added Conveniences

ST. CHARLES, Ill.—Kitchen units
and the various convenience acces-
sories that increase their service-
ability to the housewife are described
in a booklet recently issued by St.
Charles Mfg. Co., maker of steel
kitchen cabinets.

"U" type, "L" type, and divided
kitchen units are described in the
booklet, and their various convenience
accessories are outlined. In the
Master line, available features include
silver storage, planning desk, linen
storage, towel drier, curved end base
cabinet, revolving shelf, plate and
food warmer, and vegetable storage.

Both Master and Leader line cabi-
nets can be equipped with towel rod,
refuse receptacle, flour, meal, and
sugar bins, bread and cake receptacle,
auxiliary storage rack, sliding cutlery
tray, sliding towel rack, tray storage,
and lumiline lighting.

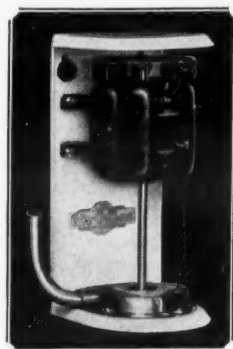
Small Size Pump For Evaporative Coolers

DALLAS, Tex.—Air-O-Line Co.
has developed a small size pump
designed for use in evaporative
coolers, chemical laboratories, and
similar applications. Made of stain-
less steel, the pump is mounted on
a vitreous porcelain enameled stand.
Three sizes are available, ranging
from 140 to 360 gallons per hour
capacity.

Features include a motor fan
which pulls the air up through the
motor, reduc- ing motor
temperature, rubber base, for silent
operation, and rubber sound
dampeners if wall mount-
ing is desired.

Shaft is of
stainless steel, and tube out-
let is plated with block tin,
inside and out.

Housing is of
die-drawn stainless steel. Bearings
are self-aligning, mounted in a sealed
oil compartment on brackets sepa-
rate from the end bells. List prices
of the units range from \$10 to \$16.



Kramer Issues Bulletin On Copper Convector

TRENTON, N. J.—Kramer Trenton
Co. recently has issued a new four-
page bulletin covering its line of
copper convectors.

The convectors employ oval tubes
for maximum prime surface and
minimum obstruction to air. Copper
tubes are seamless, and fins are
metallically fused to the tubes for
greatest heat transfer effectiveness.
Edges of the fins are housed in rigid
steel side plates, to prevent any
pinging noise during the heating up
period.

Listed in the bulletins are steam
capacity tables for various model
convectors, and tables indicating size
of tapings required, hot water ca-
pacities, roughing-in dimensions, and
water pressure losses due to con-
vector.

Bonney Hack Saw Frame Takes 8 To 12-In. Blade

ALLENTOWN, Pa.—An adjustable
hack saw frame which will accom-
modate 8 to 12-inch blades, and a
full line of 10 and 12-inch hack saw
blades have been added to the line
of tools manufactured by Bonney
Forge & Tool Works.

The saw frame allows blades to
be faced in any of four directions.
It has full nickel finish and a
checkered steel pistol grip.

Saw blades are available in
coarse, medium, and fine series of
Tungsten alloy steel with flexible
back and hardened teeth. For diffi-
cult jobs such as cutting chrome
nickel and high carbon steel, the com-
pany puts out a line of Molybdenum
high speed steel. These blades are
also available in coarse, medium, and
fine series.

Easy Adjustment Is Feature Of Linderme V-Type Pulley

DETROIT—New V-type pulley ad-
justable to a variety of speeds, ap-
plicable to stokers and oil burners,
has been developed by Linderme
Machine & Tool Co.

The two separate parts of the
pulley are sleeve fitting so that they
slide together instead of screwing
into each other, a design claimed to
result in a more accurate adjustment
and truer running pulley.

One locking screw sets the pulley
in the desired adjustment, and this
is claimed to allow a maximum of
speed variations and to shorten the
time necessary to adjust the pulley
from one speed to another. Litera-
ture is available from the company.

New Ironer Roller Has 'Shuttle' Action

MANSFIELD, Ohio—A roller with
a new "shuttle" action said to be
capable of producing the same sheen
created by hand ironing is a feature
of the new "Emperor" ironer of
Westinghouse's 1940 laundry equip-
ment line.

The shuttle action is produced by
a "rocker" device which makes the
roll move back and forth under the
shoe, creating an effect corresponding
to that of a battery of hand irons
moving in unison.

The ironer also is capable of two
other actions—continuous rotary
movement, and pressing action. All
three actions are directed by a finger-
tip control. Knee control operates
the shoe and roll. Use of a foot
pedal stops the roll instantly and
allows it to start again when pressure
is released. An emergency release
lever resets automatically.

The roll of this model is 26 inches
long and 7 inches in diameter, and
revolves 6½ times a minute, thus
providing an ironing capacity of 24
sq. ft. per minute.

The two completely open ends of
this ironer are said to provide
"creaseless" ironing. Either or both
ends of the roll may be used inde-
pendently or simultaneously.

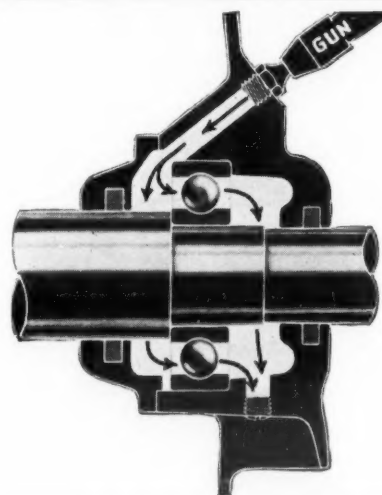
The 1,475-watt heating element is
divided, each part being controlled
by a separate thermostat, allowing
the temperature to be regulated at
both ends of the roll. Any selected
ironing temperature is automatically
maintained.

Motor Bearings Cleaned By 'Lubriflush' System

BROOKLYN—A new method of
lubricating motor bearings, known as
the "Lubriflush" system, has been
developed by engineers for U. S.
Electrical Motors, Inc.

The new method is said to expel
all the old grease from the bearing
chamber, preventing the mixing of
old and new lubricants and insuring
that all sludgy substances and
residue are driven out.

Through a duct leading from the
outside of the motor, new lubricant is



injected to the inner side of the
bearing by means of pressure gun.
A drain is placed on the opposite side
of the bearing underneath. As new
lubricant is injected, the old lubricant
is forced out of the bearing, and
before the new lubricant reaches the
drain exit, it must first flush the
entire bearing and chamber.

By this means, it is claimed, the
bearing is replenished with clean
lubricant throughout its retaining
chamber. Grease fitting and drain
plugs are easily accessible, and the
service operator, in renewing the
lubricant, can tell when the opera-
tion is completed. Application of the
new lubricating system is now being
made to all motors made by the
company.

Chicago Metal Hose Issues Flexible Tubing Bulletin

MAYWOOD, Ill.—Engineering data
of special interest to industrial con-
cerns is contained in a new bulletin
on Rex-Bellows 18-8 stainless steel
flexible tubing, manufactured by
Chicago Metal Hose Corp.

Both divided and fully corrugated
forms are shown, together with
couplings and the new pressure and
vacuum-tight joint secured by a
process of electrical resistance weld-
ing which eliminates soldering and
brazing.

G-E 'Air-Flo' Cleaner



Cylinder-Type Vacuum Marketed By G-E

BRIDGEPORT, Conn.—A complete
room cleaning service all in one kit
is offered by General Electric Co.
in its new "Air-Flo" electric vacuum
cleaner.

Body of this cleaner consists of
a heavy-gauge steel cylinder 6½
inches in diameter and 23 inches
long. It is finished in maroon and
gray, with end caps of lacquered
aluminum and highly polished ribs.

The bag, located within this
cylinder, is of the telescoping type,
so designed as to maintain a high
degree of cleaning efficiency as it
fills up, the company states. It has
an area of 292 square inches.

Motor of this cleaner, mounted in
one end of the cylinder, is rated at
½ hp., 500 watts, and is air cooled.
It is rubber mounted for quiet opera-
tion and embodies a condenser for
reducing radio interference. A felt
gasket placed between the bag and
the motor is treated with an
aromatic oil which gives off a slight
odor of pine when the machine is in
use, it is said.

Cleaning tools furnished with the
unit include an 8-foot hose which
is attached to the cylinder, two
22-inch extension tubes, a rug nozzle,
floor brush, upholstery nozzle, radi-
ator tool, dusting brush, liquid
sprayer, deodorizer, and a quantity
of demisting crystals.

The floor tool is 11 inches wide
and has an adjustable built-in brush
for use on rugs and carpets. Bare
floors and linoleum may be cleaned
with the oval brush connected to the
extension tubes. The cleaner comes
equipped with a 20-foot rubber
covered cord and molded rubber plug.

Lohman Line of 6-Blade Fans Ranges From 30 To 72 Inches

NEW YORK CITY—A line of six-
blade propeller-type fan blades from
30 inches to 72 inches in diameter
has been announced by William J.
Lohman, Inc. here. Constructed of
steel stampings, the assembly is said
to require no drillouts, no slugs, nor
any filling to make the blades bal-
ance. The blades may be used on
direct or belt-drive application.

**HOTEL
IMPERIAL**
PETERBORO
AT WOODWARD

Luxuriously
Appointed Rooms
SINGLE OR EN SUITE
RATES \$2
FROM

A Few Minutes to Theatre
and Shopping Districts
BEAUTIFUL DINING ROOM
AND COFFEE SHOPPE

DETROIT



ALL
OUTSIDE
ROOMS
WITH BATH

CLASSIFIED ADVERTISING

RATES: Fifty words or less in 6-point light-face type only, one insertion, \$2.00, additional words, four cents each. Three consecutive insertions \$5.00, additional words ten cents each.

REPRESENTATIVES AVAILABLE

WANTED—To represent air conditioning equipment concerns, both heating and cooling, or distribution of accessories or allied lines for Southern California or West Coast territories. Am a graduate of Air Conditioning and Refrigeration Institute. Twenty years sales experience. Write JOHN A. STIEBER, 1541 Topeka St., Pasadena, Calif.

FRANCHISES AVAILABLE

SEND FOR PRICES and literature on the General 1940, all streamlined refrigerator display case. Over 40 years' experience manufacturing good commercial display cases. On a comparative price test with other makes of equal specifications, prices are lowest in the country. GENERAL REFRIGERATOR & STORE FIXTURE CO., 519 Bainbridge St., Philadelphia, Pa.

COMPLETE COMMERCIAL Refrigerator line. Porcelain corkboard display cases, reach-in, walk-in and sliding door, full vision fruit and vegetable refrigerators. Originators of open top refrigerated vegetable cases. Full line extra-liberally priced. Percival-Universal units. Established 1886. 53 years of service. C. L. PERCIVAL COMPANY, Des Moines, Iowa.

EQUIPMENT FOR SALE

BRAND NEW complete high sides: 1/2, 3/4, 1, 1 1/2 h.p. General Electric compressors with General Electric motors; Frigidaire compressors with Delco motors. Low prices, money back guarantee. MARTIN SPECTOR, 520 East 20th Street, New York City.

NEW COMPLETE M & E high sides 1/2 to 1 1/2 H.P. water cooled, will sell below our factory cost. Limited quantity. Subject to prior sale. SAM S. GLAUBER, INC., 515 E. 79th St., New York, N. Y.

AVAILABLE—Reoperated and dehydrated General Electric monitor top floats @ \$.90 ea. G-55 General Electric Brine Tank Evaporators @ \$1.00 ea. G-40 and G-55 dry evaporators @ \$1.35 ea., all dehydrated and carefully checked. General Electric monitor top controls operating, but in "As is" condition, vertical or horizontal @ \$2.00 ea. ASSOCIATED REFRIGERATOR PLANT INC., 3028 Hunting Park Ave., Philadelphia, Pa.

REPAIR SERVICE

G. E. DR1—DR2—\$30.00; Domestic Westinghouse \$27.50; one year unconditional guarantee. Place order for any model G. E. or Westinghouse sealed unit. Shipment will be made from stock same day. Return old unit later. Our production line turns out completely rebuilt sealed units mechanically comparable to manufacturer's with replacement service inferior to none at prices that enable you to realize profit on resale. Send for complete replacement schedule. REX REFRIGERATION SERVICE, INC., 2226 S. State, Chicago, Ill.

HERMETIC REBUILDING and exchange service. General Electric—Majestic—Grunow—Frigidaire Meter-Miser—Westinghouse. One year unconditional guarantee. Immediate shipment all models of General Electric, Majestic and Grunows. Write on your letterhead for price list and circular. SERVICE PARTS CO., 1101-3 N. 24th Ave., Melrose Park, Ill., On the edge of Chicago.

DOMESTIC TYPE thermostatic controls reconditioned like new. Precision work by experts. Years of satisfied customers, among largest in the country. All work guaranteed. Try us and be convinced. The largest thermostatic repair service in the country. It's your guarantee. Prices on request. UNITED REPAIR CO., INC., 342 W. 70th St., New York City.

CONTROL REPAIR service. Your controls repaired by expert mechanics, with special precision equipment. Supervised by graduate engineers. We stress perfection and dependability before price. One year guarantee on domestic controls. Any bellows operated device repaired. HALELECTRIC LABORATORY, 1793 Lakeview Road, Cleveland, Ohio.

PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. VAN DEVENTER (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

Anaconda Copper Refrigeration Tubes

New cup seal keeps them clean and dry



THE AMERICAN BRASS CO.

FRENCH SHALE TUBE BRANCH
General Office: Washington, D.C.

Heads Perfix Sales



L. B. MILLER

"Pat" Miller, as the industry knows him, is a pioneer of the refrigeration control business who is now with Perfix Corp. of Milwaukee.

Art Davis Joins Staff Of Republic Electric

DAVENPORT, Iowa—A. J. (Art) Davis has been appointed a sales representative for the refrigeration and heating supply department of

With Davenport Jobber



A. J. DAVIS

Republic Electric Co., supplies jobber with headquarters here.

Mr. Davis has been in the employ of Republic Electric during the greater part of the last 18 years, and also has been in business for himself.

Century Electric Co. Declares Dividend

ST. LOUIS—Directors of Century Electric Co. have declared a dividend of 10 cents per share on the common stock of the company, payable Dec. 20 to stockholders of record at the close of business Dec. 15. This is to be paid from the current year's earnings.

Murphy's Service Opens New Office In Camden

CAMDEN, N. J.—A new building at 2508 Federal St., has been opened by Murphy's Service, which specializes in servicing all types of refrigeration and air-conditioning units, and merchandises electric refrigerators, appliances, radios, and gas ranges. The firm's business covers the counties of Camden, Burlington, and Gloucester.

The new building is 30 by 300 feet, with a showroom 30 by 65 feet, a daylight shop, garage for seven service trucks, and an adjoining parking lot for customers. The business is operated by Mr. and Mrs. John J. Murphy.

For Information on Motors
FOR ALL TYPES OF
Air Conditioning and
Refrigeration Equipment
WRITE TO

Wagner Electric Corporation
3441 ELYMOUTH AVE.
ST. LOUIS, MO.

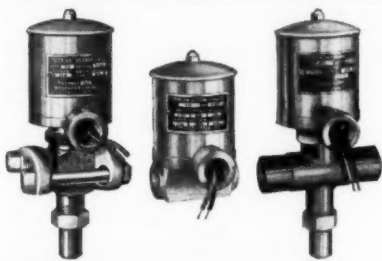
Refrigerant Distributors Made Available By Spoeher-Lange Co.

ST. LOUIS—A wide range of refrigerant distributors in varying types and sizes is now being offered by Spoeher-Lange Co. for use in conjunction with thermostatic expansion valves on multi-circuit evaporators.

These distributors make possible the use of a small number of large capacity valves on an evaporator of this type rather than a large number of small valves, thus effecting a saving in original cost, simplifying installation, and tending to reduce service costs, according to the company's claims.

The Sporlan distributors are separate from the valves and can be applied to any standard evaporator in conjunction with any standard thermostatic valves. They are available for any number of circuits from two to 14, and for connecting tubing sizes from 3/16 to 5/8-inch o.d. Connecting tubes are grouped closely together and lead off in the same direction.

The unit consists of a brass body or housing, one end of which is recessed to receive interchangeable



Above are the new Sporlan solenoids, below is a section showing the refrigerant distributor construction.

bushings or nozzles. These nozzles increase the velocity of the refrigerant to reduce the effect of gravity and to center the flow so that it impinges squarely in the center of a cone-shaped button at the opposite end of the housing.

Evenly spaced around the base of the button are the orifices into which the refrigerant is distributed. The connecting tubes, which are silver-soldered into the outlet end, carry the distributed refrigerant to the several circuits of the evaporator. The capacity of the distributor is governed by the size of the nozzle.

By virtue of what is said to be perfect centering of the flow and the symmetrical spacing of the outlet orifices, the device efficiently distributes the refrigerant even under widely varying load conditions, the company claims.

The Sporlan distributors are licensed under Westinghouse patents No. 2,147,678, 2,148,412, 2,148,413, and 2,148,414. They may be purchased with or without the connecting tubing.

Air Cooling Threat To Cairo Outdoor Theaters

CAIRO, Egypt—An air-conditioned moving picture theater is being built here, to be operated the year around showing only first-run films. Open-air theaters in the past have monopolized summer business.

Dallas Jobber's Catalog Has Applications Data

DALLAS, Tex.—First catalog of air conditioning and refrigeration supplies has been issued by Refrigeration Supply Co., jobber here. The 129-page catalog gives full listings and prices of all parts and supplies carried by the company. The catalog is designed for the use of distributors, dealers, and service organizations in this area, and all materials will be sold on a strictly wholesale basis, according to U. C. Boyles, company manager.

In addition to the list of materials supplied by the company, the catalog carries service information and suggestions as to the applications and methods of installation for many of the listed parts.

Dixie Electric Moves

OPELOUSAS, La.—Dixie Electric & Gas, Inc., refrigerator and air-conditioning equipment dealership, has moved into new and larger quarters on South Main St. nearer the center of the community's business section.

MUZZARELLI'S DIRECT DRAW BEER COOLER

ELECTRIC DRY TYPE GUN—COOLER REFRIGERATION

NEW
Efficiency
Fast Cooling
BEER
COOLER

MUZZARELLI'S line of Beverage and Direct Draw Beer Coolers, Bar Fixtures and equipment offers Distributors a Highly Profitable connection. Write for illustrated circulars and catalog.

MAKE
SALES
QUICK
at a
PROFIT

E. B. MUZZARELLI and COMPANY
1421-27 Chestnut Street, KANSAS CITY, MISSOURI

THE AGE of Tube Cutters

Of all the Imperial tools that are so widely used it is safe to say that the No. 174-F Tube Cutter is the "king of the crop" or the "Ace in the hole." You can buy cutters for less money, but you can't buy anything the equal of it.

for handling tubing work. The tube rests against two rollers, with vertical groove, making it possible to remove flare, when desired. Brass forged body, chromium plated finish. Knurled handle. Complete with reamer.

THE IMPERIAL BRASS MFG. CO., 565 S. Racine Ave., Chicago, Ill.

ORDER FROM
YOUR JOBBER

IMPERIAL

VALVES • FITTINGS • TOOLS
CHARGING LINES • FLOATS
STRAINERS • DEHYDRATORS

THE NEW KOCH Crispeteria

for FRUITS...VEGETABLES

One of Many

outstanding Koch Products in the complete line of Koch Commercial Refrigerator Cabinets. Write for details concerning open territories.

THE INDUSTRY'S DOMINANT LINE

KOCH REFRIGERATORS
NORTH KANSAS CITY, MO.



Gilmer's
"Eye-Ful" Tower
Merchandiser
with
Handimeter

... complete with 35
most popular-sized
belts... pays \$13.92
clear PROFIT!

Order it today!
Make it Your "On-
the-counter" F.H.P.
Belt Department

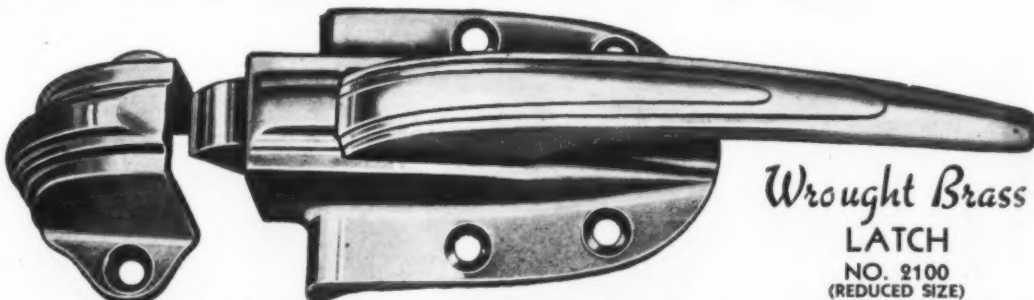


For details write to L. H. GILMER COMPANY

Tacony Philadelphia

APPROVED! The quick and enthusiastic response of the trade to Streamline Latch No. 2100 and Hinge No. 2200 compensates us gratifyingly for the pains which we took to make these items of moderate-price hardware items of exceptional beauty and quality.

WRITE FOR
DESCRIPTIVE
LITERATURE



Wrought Brass
LATCH
NO. 2100
(REDUCED SIZE)

KASON HARDWARE CORP'N., 127-137 Wallabout St., Brooklyn, N. Y.

Engineers Convention Program Completed

(Concluded from Page 1, Column 4) ceremonies on the afternoon of Jan. 18, and the informal conferences on industry engineering problems will be continued, with one session on corrosion problems and another on agricultural research as it applies to refrigeration.

Industrial refrigeration will be the topic of the convention's opening technical session at 10 a.m. Jan. 17, of which George Bright will be chairman.

"Motors for Commercial Refrigerating Equipment" will be discussed by C. C. Leader, General Electric Co., Fort Wayne, Ind.; "Application of Heat Transfer Data to Design of Horizontal Shell-and-Tube Condensers," by Henry B. Pownall, York Ice Machinery Corp.; and "Refrigeration in the Petroleum Industry," by G. A. Beiter, Standard Oil Co. of Indiana, Chicago.

Welcome luncheon in the Blackstone ballroom at 12:45 p.m., with Gardner Poole as chairman, will have as speaker Dr. Henry T. Heald, president of Armour Institute of Technology.

At the afternoon session on Jan. 17, to be held jointly with Refrigeration Service Engineers Society in the Stevens, Deane Perham will be chairman, and the topic will be small refrigerating systems.

"Bomb Method of Charging Refrigerator Units," will be outlined by G. S. McCloy and A. W. Haley, Westinghouse Electric & Mfg. Co., Springfield, Mass.; and "Pressure Drop in Liquid Lines" will be discussed by Ernest Gyax, Curtis Refrigerating Machine Co., and K. S. Wilson, Ansul Chemical Co. The session will close with a refrigerant tube bending contest.

Chester Lichtenberg will be chairman of the conference on agricultural research, to be held in the English Room. Summary reports will be given on status of research in connection with meat, poultry, fish, eggs, dairy products, fruits, and vegetables. Contributors will include H. H. Plagge, Iowa State College; L. H. James, University of Maryland; V. R. Gardner, Michigan State College; H. C. Jackson, University of Wisconsin; T. E. Hinton, Purdue University; Sybil Woodruff, University of Illinois; and W. V. Hukill and John Bowen, Washington, D. C.

Ceremonies observing the thirty-fifth anniversary of A.S.R.E. will highlight the session at 2:30 on the afternoon of Jan. 18. Col. Crosby Field will officiate at the induction of J. F. Nickerson as an honorary member of the society; "Refrigeration

'Sam' Listens as Excited Convention Guests Talk



This picture is unusual if only for the fact that the only unanimated member of the informal group pictured here at the recent Westinghouse convention is V. E. "Sam" Vining (far

left), the dynamic director of department store sales for Westinghouse, and usually the industry's best model for an action news picture; the others, who are doing the talking are (left

to right) Reese Mills, manager of range and water heater department; Eric Hall of Wesco, Seattle; and C. L. Weaver, Westinghouse Electric & Mfg. Co., Seattle.

in 1904" will be discussed by David L. Fiske, A.S.R.E. secretary, and "Refrigeration in 1954" will be forecast by S. C. Bloom, Chicago consulting engineer.

Following discussion of these talks, reports of technical and other committees will be made.

Annual A.S.R.E. dinner-dance will be held starting at 7:30 p.m. that night in the ballroom of the Blackstone.

Refrigeration of foods will be the topic of the fourth and final technical session, of which Mr. Poole will be chairman. "Refrigeration of Lard, Oil, and Fats," will be outlined by H. S. Mitchell, Swift & Co.; "Ultra-Violet Light in Beef Chilling" will be discussed by P. B. Christensen, Kroger Grocery & Baking Co., and A. W. Ewell, Worcester Polytechnic Institute; and "Air Conditioning Applied to Foods" will be explained by H. B. Matzen, New York City consulting engineer.

Chicago convention committee is headed by Mr. Perham as general chairman; Mrs. Perham is chairman of the women's committee, assisted by Mrs. A. B. Stickney as vice chairman. S. C. Bloom is chairman of the reception committee; Bean Seamon heads the entertainment committee; and T. C. McKee is finance chairman.

Terhune Will Direct Servel Unit Sales

(Concluded from Page 1, Column 2) in Boston in 1928. Soon thereafter he organized his own company and was a distributor of household and commercial refrigeration products in the Boston area for several years.

He joined the Servel factory sales department early in 1934, and used his experience in retail selling and as a distributor to advantage in broadening Servel's commercial refrigeration distribution in New England. In 1935 Mr. Terhune was appointed eastern sales manager.

St. Louis Dept. Store Contracts For Cooling

(Concluded from Page 1, Column 2) which none could install air conditioning without consent of the others. Extremely high store temperatures in the summer season, however, have necessitated cooling to allay customer complaints.

A refrigeration system for all food departments, fur storage, and drinking water systems will also be installed, at an added cost of \$50,000.

Refrigeration's Place In U. S. Defense Is Told

(Concluded from Page 1, Column 1) chairman of a committee of A.S.R.E. members in charge of the organization work.

Subjects covered by the speakers addressing the gathering included the construction of huge meat storage plants in France during World War I, the equipment of refrigerated ships, crystallization processes in making high explosives, and air conditioning in fuse loading plants.

H. L. Consley described the activities of Ice Plant Unit 301, which back in 1918 enlisted 344 specialists for manifold refrigeration activities in France. Beef storage plants capable of holding 5,000,000 pounds of beef, ice plants, refrigerator cars, and other refrigeration activities which centered about the town of Gievres, France, were described to the civilians and army men present.

Henry B. Matzen, New York consulting engineer, discussed refrigeration in making ammonium nitrate, the air conditioning of munition plants, and the ventilation of bomb-proof shelters which is currently being carried on in England.

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As thermostat elements, crankshaft seals, packless glands, etc., the Sylphon Bellows is the most widely used and preferred product in its field. Because manufacturers know that it contributes much toward the amazingly long, trouble-free life which the public has grown to expect of modern refrigeration and air conditioning equipment.

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